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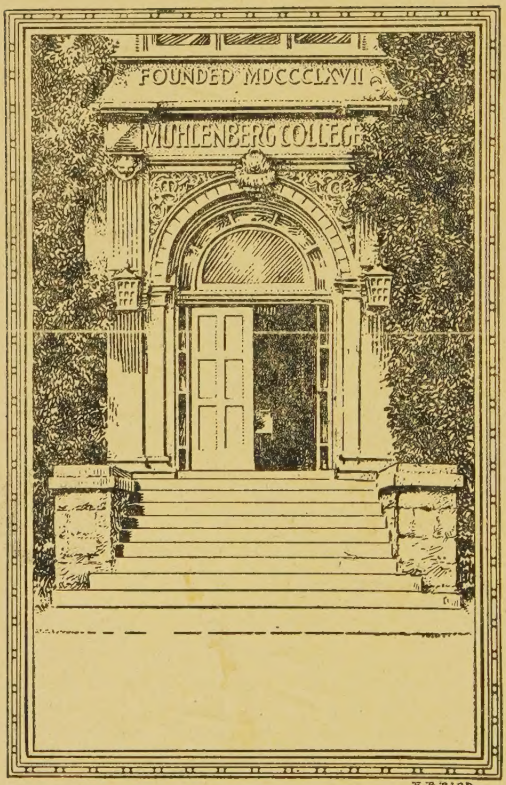

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THE ECONOMICS OF ENTERPRISE

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THE
ECONOMICS OF ENTERPRISE

BY

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PREFACE

In questions of economic theory the writer conceives himself, as among his colleagues of the craft, to be in essentials rather a conservative than an innovator. The Socialists, indeed — with whom he disclaims all theoretical sympathies — seem to him to be the ultra-conservatives in doctrinal positions. Mostly, therefore, his attack upon the moderns is for the violence done by them to the older doctrine, either in the bad choice of the portions to be emphasized, or through attempted additions which in general have brought no gain and have often imposed serious loss. In his own sort, doubtless, he similarly aspires to reformulate or to extend or to reconstruct the established principles and categories, but this rarely or never with the purpose to abandon them or to put in issue or to place in hazard their central and intrinsic truths. As between a reactionary loyalty to the old, and an innovating zeal which reforms only in essentials to destroy, he would choose a middle course — to prune in order to save, to engraft only to complete, to restate only in fundamentals to reaffirm. It is, then, especially with his fellow workers who see nothing good or enduring in the work of the masters, who condemn both superstructure and foundation, whose hope rests solely in building entirely anew, that he finds himself entirely out of sympathy. One should altogether despair of what the future may achieve who is compelled to condemn all that the past has done. That our predecessors saw imperfectly was unavoidable; but that they did not see at all is incredible. There were great men in those days — albeit fallible men — in close and intimate grip with the facts. Mostly in what they did not do, rather than in what they did, consisted their imperfections. To fulfill the prophecies rather than to destroy, to supplement the half-truths, to limit too-inclusive formulas, to articulate

the disconnected generalizations, to find the synthesis which shall harmonize the superficial contradictions, — in this way progress lies. It is, then, upon issues as to the degree and the direction in which the later thought has proceeded that mostly the present writer contests the views of his fellows. As against most of these he claims for himself the position of conservative.

It is, therefore, only upon the applications of economic science to the problems of practical progress that he is to be taken as a radical economist or as qualified to apply for membership among those thinkers who are facing toward the new day — the disturbers at large of the peace. Had it been within the reach of his power, this book should have set forth the economics of a new political and social program; as it is, the work expresses only an aspiration. Chief, however, among the monopolies that he would condemn is the monopoly, so far enjoyed by the reactionaries, of all authoritative economic doctrine.

H. J. DAVENPORT.

UNIVERSITY OF MISSOURI,
October, 1913.

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THE ECONOMICS OF ENTERPRISE

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CHAPTER I

FUNDAMENTAL CONDITIONS: MAN AND ENVIRONMENT

What income is and whence it comes. — There are obviously only two sources from which, in the main, society as a whole or any particular individual may derive an income: (1) from the efforts made, (2) from the possessions used. The only cases that fit clumsily into this statement are the unsought bounties of nature or of chance.

Of any isolated individual man or of an isolated society or of the human race taken as a whole, it may, then, be safely asserted that the current product of goods for consumption — the aggregate income — must be derived either from current labor or from the productive possessions already acquired. All that society can have to-day it must acquire to-day or must take out of its past product. How much society can consume, how great is its aggregate command of the things that satisfy human desires, — *goods*, — is conditioned by the aggregate social production — *the social dividend*. This aggregate output, this social dividend, conditions and determines the average individual income, precisely as any other dividend conditions its quotient. And it is evident also that ultimately this individual *income* must consist entirely of the things that satisfy human needs; that is, must consist in consumption goods, in those things that are wanted in their own right and not as means to the getting of something else. We have here no concern with the money in terms of which the incomes may be received — no necessary reference, that is to say, to the *nominal income* — but only to the ultimate control of consumption goods, the things that are wanted for their service to human beings.

It is also evident that, in final analysis, all incomes are

psychic incomes, the experience of having wants gratified. Consumption goods are ultimately not significant as the concrete objective goods themselves, but for the services which they render — precisely as the vibrations of air that make sound concern each of us only as, by striking on the eardrum, they affect the consciousness.

This social dividend — the current output of consumption goods — finds, then, its sources on the one side in the human productive power of society, its efficiency in work (*labor*), and on the other side in the degree and kind of equipment of society, its possessions — its environment of productive power and opportunity.

That **average consumption is limited by average production** is not far from an axiom. None the less it needs emphasis; for in the complexity of actual affairs it is easy to lose a working grasp of it. We are, for example, often told that the reason why the average income, say in India, is so low is that the standard of living is so low: men have little because they desire little, rather than because they produce little. Now it may well be that men produce little because they desire little, but it is only in this way that desires can affect the quantum of product and thereby the average consumption. It is safe to say that there never was and never will be a race of men lacking in desires still to be satisfied, although it may well be true that the dislike of effort is one of the reasons why some desires fail of product for their satisfaction. But it still holds that the desires outrun the means of satisfaction. Conceivably, indeed, all labor might be pleasant; and yet, by reason of the limited time for work and of the limited time for play and of the limited time for the enjoyment of the fruits of work, — a conflict among competing desires, — some desires for consumable goods must be thwarted of their fulfillment, the product being still inadequate for the satisfaction of all desires. Clearly, then, a low average of production is not due to the fact that all desires are satisfied.

Do standards of living fix wages? — In the aggregate and average, then, men do not stop consuming because they want

no more goods but because they can get no more on terms that make this more worth while. Thus, in the assertion that wages are high in America because the standard of living is high, and low in India because the standard of living is low there, there is a sheer reversal of the causal sequence. *A standard of living is merely a level of consumption so fixed in habit* that any falling short is felt as a privation. America has a high standard because the per capita production in America is great: people have, therefore, acquired the habit of consuming much. The level of production fixes the standard. The standard is causal in the case only so far as, in turn, it may react to affect the volume of product. Average income fixes the standard, rather than the standard the average income. Every few years some millions of people in India starve; not because they do not want food, but because they cannot get it. They are unable to get it because they are unable to produce it. That they have the habit of consuming little is merely another way of saying that they have always a scant margin of actual product over sheer necessity — a margin that may at any time disappear.

The relation between desire and product. — But nothing in all this should put in question the truth that the fact fundamental to the production of goods is the desire for goods. Things would nowhere have human effort directed to them if they were not wanted. Desire lies back of product; human needs are the ultimate explanation for the putting-forth of labor, and, therefore, for the existence of the products of labor. But it remains true that the limit upon what is consumed is not the limit of desire but the limit of accomplishment. So, again, to say that wages are low in India because work is scarce holds in the sense only that wages are low because that sort of labor is scarce that is efficient enough, under the existing conditions, to command higher wages. It is true that needs, in that climate, are not as many, and that many of these are not as imperative as in severer climates; less suffices there than suffices here. But it remains true that, even with these less urgent needs, their wearily long work-

day leaves the East Indians scantily housed and clothed and fed. Recurrently famine mows down its millions of victims. So far, then, from there being no work to do, there is more work acutely needing to be done than can get done. The problem is greater than the work can solve; the lack is not in the work to do but in the work done.

Money *versus* goods. — Even more superficial is the attempt to explain a low average of consumption by the lack of money. From the fact that any one of us who has more money can have more goods to consume, it is sometimes deduced that if all of us had more money we could all of us have more goods. But money is good only for buying things. The command of things to be consumed, and not the amount of money, is the limit upon what the total money can buy. Beware of the fallacy of reasoning from one to all. If you get hold of more coupon tickets against the restaurant you can have more viands, but only upon terms of so much the less for others. At all events, society as a whole cannot be fed by multiplying coupon tickets. Only product can solve that problem. One tree by growing faster can overtop the others, but not all trees by following this device can overtop all the rest. One runner may outstrip the others by his swift running, but all may as well stand still as run in an equal race. Average consumption depends upon average production and not upon the volume of money claims against this product.

What money does. — Average consumption is a question of labor and of factories, of herds and of crops, and not of money. Money is merely a great convenience in the process of making exchanges. We sell for money, but this is only to get the means wherewith to buy something else. Money simplifies the process. Without it one might search hard and long to find some one having what one wanted and wanting what one had. *Money is* that one commodity which has come to be accepted as *the usual intermediate* in trade. *Its main service is as medium of exchange.* But people could get on without any one money commodity, making their exchanges directly by barter, despite the great inconveniences of this method. Doubling the money would

not double the products of the fields and the factories, or the strength and skill of human beings. All these would remain as before. Money is not the cause or the basis or the test of aggregate well-being. The aggregate or average production is the ultimate fact in any society. Who has the money — the orders or coupons against the product — is a question of importance, but only as it bears on the distribution of the goods produced among the different members of society. Any individual would like to have his own money doubled, just as any one of us would like an increased number of orders or of coupon books upon the grocer or the dry goods man — but only upon the condition that the money or orders or coupon books of other men were not also doubled. Increasing the coupon books would not increase the amount of goods which the grocer or dry goods man has in his shop. Thus the love of money, or the evil or good of this love, is ultimately the love of the things that money controls. Money is purchasing power — command over the things in life that are bought and sold.

Man and Environment — Effort and Opportunity. — For our present purposes, then, the human race as producing agent in its relation to its environment is the subject matter of our study. Man, as the first term in the relation, is regarded as standing over against an outside world of fact and circumstance, of which he makes such use, and from which he gets such aid and benefit, as he can. His problem is to adapt activity to opportunity, to seek out his best adjustment to his situation and his best utilization of it. He illustrates one aspect of the great law of correspondence to environment. The economist must, therefore, study human productive effort with constant reference to the conditions which obtain, now to further, and now to limit, the resulting product. As with the individual, so essentially with society: success is not purely a question of pluck and brain; something must be allowed for surroundings and opportunity. Good legs and a fair field are both needed for fast running. So in all economic relations, socially or individually viewed, both actor and opportunity require

examination. Life, for each one of us, is a question of what there is in us plus what is outside — of our powers and energies in the face of our surroundings and opportunities. Give Crusoe his island; what will he do with it? This is in part a question of Crusoe and in part a question of his island. For races, likewise, the problem is on one side a matter of character and capacity, on the other, of surroundings and opportunity.

Why there is plenty or dearth. — It should now be clear that wherever there is found a high stage of civilization, or great prosperity, or a high average production and consumption of wealth, the explanation must always lie in the character of the people under examination or in the character of the environment in which they live. If the people in China have less per capita to consume than the people in France, it is because the Chinese produce less per capita than do the French; and the explanation of this must be found in the lower vigor, or skill, or energy, or intelligence, or scientific attainments, of the Chinese, or in the unfavorable character of the opportunities in which they live. If Americans are more prosperous and live better than Europeans, it must be that Americans are better producers, — more active, more inventive, more enterprising, — or that the soil and climate and other natural resources of America offer more advantageous opportunities for production. No one has great difficulty in understanding this principle as illustrated in the affairs of everyday life. Long ago it was remarked that not even the most skillful workman can make bricks without straw. Bad tools place the best of mechanics at disadvantage. Men do not gather grapes of thorns or figs of thistles. It takes more than a good farmer alone, or than a good farm alone, to make a good crop. There must be both farm and farmer. Only opportunity improved is success.

How environments differ. — The production, then, of goods by man, so far as it does not rest with the character of the actor himself, must find its explanation in the nature of his environment, — in the elements, in the varying condi-

tions of temperature, rainfall, sunshine, humidity, healthfulness, etc.; in the soil, or, more accurately, in the land, its fertility and workability, its mineral resources, its convenience for industry and commerce; in the varying sum of natural forces more or less within the control of man, such as winds, tides, electricity, gravitation, and steam. This enumeration is of necessity both incomplete and inexact. Climate cannot be definitely distinguished from winds, electricity, and light; nor can natural forces be treated apart from questions of navigation and convenience for commerce. Light, which may be used as a natural force for power or for the purposes of chemistry or of art, is, from another point of view, a factor in the fertility of the soil. But it is important merely to hold in mind that wealth depends upon the correspondence of two factors, — (1) man himself, and (2) the conditions surrounding him. He may, as we shall see later, in some measure modify surrounding conditions. But it will still remain true that the arctic regions and the tropical deserts do not offer favorable opportunities for his wealth-producing activities. He may make for himself artificial lines of communication; but rivers, lakes, and seas will retain an economic importance for this purpose. He may exist making small use of the opportunities offered by natural forces; but it will remain true that in these rest the possibility of the greatest efficiency and the largest field for economic progress.

How the human factor differs. — Turning now especially to an examination of the human factor in production, we note that, while the producing powers of men are, in appreciable degree, a matter of physical strength and endurance, a larger measure of importance should be ascribed to agility and to concentration of effort. On this point, the German economist, Wilhelm Roscher, writes:

"According to the reports of English manufacturers, an English workman produces on an average almost twice as much as a Frenchman; the latter in turn more than an Irishman. An English wage earner who had worked in a French factory, speaking before the Parliamentary Committee, gave his opinion of the

French as follows: 'It cannot be called work they do; it is only looking at it and wishing it done. Thus, for example, a good English spinner with an eight-hundred-spindle machine could produce daily sixty-six pounds of yarn; a Frenchman only forty-eight pounds. . . .' The report of an Agricultural-interest Commission places the North American workman above the English in good conduct, fidelity, and interest. A Berlin woodcutter accomplishes as much in ten days as an East Prussian in twenty-seven days. (Hoffman.) English planters on the Hellespont prefer to pay Greek laborers ten pounds sterling a year and their keep rather than Turkish laborers three pounds. So the Malay field laborer gets two and a half dollars per month, the Malabar four, the Chinese six."

Probably equally important in production are the distinctively moral qualities of men, and the social and moral conditions in which they live and for which they are largely responsible. Under modern conditions every corner of the world does business with almost every other. Business affairs are complex, of enormous magnitude, and highly centralized. Great factories, employing thousands of men, sell goods all over the world. The force of officers, clerks, and agents is necessarily large. The system of buying and selling on credit is widespread. Business must therefore be largely done on terms of trust and confidence. A certain degree of honesty and good faith is essential to the success of this system, and any society lacking in this respect must suffer thereby. These qualities are especially important under present conditions because most men must be wage earners serving under employers. The productive effectiveness of society must therefore largely depend upon the good faith of the employees.

Again: in no society in which people lack in forethought for the future will work go on, unless under stress of immediate need. The ability to wait, to see ahead, and to provide for the far-off want, drains the land, clears the forests, plans the machinery, constructs the railroads, and builds the factories.

How intelligence affects product. — But most important among the characteristics of man as producer are his intellectual powers and acquirements. If we compare modern industrial processes with the methods of ancient times, we

get some notion of the importance of science and art in production. Especially in the world of economics is it true that knowledge is power. The savage made an enormous step forward when he acquired the knowledge of the bow and the rod. Tools increase by many fold the effectiveness of human energies. But when, by the use of machinery, man has harnessed to his aid the forces of nature, the field of progress is indefinitely widened. By spindle and loom he multiplies his product by hundreds. Steam and electricity, the printing press, the cotton gin, and the countless contrivances which make of every county fair a collection of marvels, and of every world's exposition a display of miracles — these are the fruits of that civilization into which each one of us is born as to a free heritage. And remember that behind the art and the skill in all these processes and methods, there is a world of pure science. No one has grown more grain than the chemist. The difficult problems of industry are wrought out in the laboratory of the specialist. The investigators and inventors have revolutionized the methods and the organization of the modern world. The ruling forces of civilized life are the intellectual forces. The moral code of eighteen hundred years ago left, indeed, not much to be added. Laws, governments, institutions, science, art, invention, and discovery, — these are the facts which measure the distance between civilization and savagery. In these directions the progress of mankind is seemingly without limit.

How social conditions affect product. — The effect of the social situation upon the productive power of the laborer may be great. The bearing of science and invention needs perhaps no further emphasis. Important, likewise, and sometimes in an equal degree, are the safety and security of the individual and of his property, — his freedom of choice, his immunity from different forms of injustice and exploitation. No society which, through disorder, crime, war, or overtaxation, unsettles the connection between industry and reward, can fail of enfeebling its productive forces. Security of life, property, and investment is essential to high economic efficiency.

So likewise, while the institution of slavery may doubtless sometimes afford the most effective organization of labor, it is safe to say that no advanced society can reach its highest possibilities in production, if men are not free to work for their own benefit and, if they so desire, under their own direction. Labor must be voluntary, and it must be assured of its reward, or it will not be vigorous and caretaking. It is certain that the wage of the coolie laborer of India — his *real wage*, his *command of goods achieved through his labor* — would be higher were he not taxed and tithed and rack-rented and plundered and exploited for the gain of all sorts of parasitic livers and wasters. Not only, then, do the toll-takers out of the products of others — the cuckoos and cow birds, the parasites, and the barnacles — redistribute the consumable goods produced in society, but also, by disturbing the relation between effort and the reward of effort, they may in serious measure reduce the productive effectiveness of such labor as is done. Both slavery and feudalism suffered by this defect. Parasitism weakens the springs of motives for its victims and, at the same time, relaxes the productive powers of those who wrongfully profit from it.

But we are now concerned with the distribution of the social product only in the degree that the terms of the distribution react upon production. The present question is the amount produced and not the terms of its division — the aggregate sum to be distributed rather than the determination and the apportionment of the individual shares — and we are logically held to this course since what is distributed depends upon what is produced. Before there can be distribution there must be production. We must first see our problem not in detail but in its large and general and aggregate aspects. An analysis of *the distributive process*, the forces and methods *by which the shares, or fractions, of the aggregate product are apportioned* — the most difficult problem, or series of problems, in the field of economic theory — must await its later turn.

But it is none the less true that, in the larger study of the social income as the joint product of human labor in coöpera-

tion with productive equipment, the institutional situation is very important. Institutions, however, are a working consensus of human thought or habit, a generally established attitude of mind and a generally adopted custom of action, — as, for example, private property, inheritance, government, taxation, competition, credit. Thus, these institutions, when regarded from the aggregate and social point of view, are merely qualities and attributes of the human factor in production, affecting the product. They are man as distinguished from environment, possessor not possession, artisan not instrument, laborer not equipment, operator not appliance, internal not external facts; they belong to the organism and not to the outside world. But looked at from the competitive and distributive point of view, their chief significance is in affecting the terms of the division of the aggregate product.

Man and Environment: the interactions. — For a general understanding either of man or of environment at any given time, much must be allowed both for the accumulated influence of the environment upon man, and of man upon the environment. Just as we note that polar bears are white, and grass snakes green or striped — that bees taken to a climate of continual summer lose their habit of accumulating honey — that the fish in Mammoth Cave are without eyes — that the cultivated strawberry, set in the poor soil of the field to make its way against grass and weeds, reverts to its wild form, — so we find that the types of mankind reflect in countless ways the influence of environmental conditions. And, equally clearly, the environment reflects the modifying power of men. Waiving, for the moment, the question of which factor has the more affected the other, we may safely assert that man is not entirely the master of his fate, nor yet entirely the puppet of the forces by which he is surrounded. He is himself a force, a center of energy and activity. He is one of the facts in the complex interplay of human with natural energies. If he receives, he gives. If his environment rains its influences upon him, he puts forth his own efforts in adapting self to environment or en-

vironment to self. He strives and resists and reacts. George Eliot has put the case helpfully, when, in supplement to the half-truth, "Our deeds are fetters which we forge ourselves," she adds, "Aye, but I think it is the world that brings the iron." The history of human development is the story of what circumstance has done for man and man for circumstance — the play of outside forces upon him and his reactions thereto. There are thus two forces in the problem of history, — man and nature. The resultant is the direction of human development.

This is not a difficult notion. As has already been stated, it is merely one aspect of that which men of science call the law of adaptation, or of correspondence to environment. It is unnecessary for the purposes of Political Economy to push the question into an inquiry as to which of these two forces in human development, if either, is the primary fact and which the derivative. We may, for example, regard coral polyps as a product of the sea; it is none the less true that, once existing, they not merely suffer but work the processes of sea change. It constantly occurs that a result becomes in turn a cause, — as, for example, in chemistry, where a product of combination or decomposition furnishes a basis for a new series of chemical changes; or in physics, where in a row of blocks one falls as the result of an impact received, and by delivering its impact causes the next to fall; or, in chemistry again, where combustion liberates gases which themselves furnish material for further combustion. Most things grow by what they feed on.

Partly, thus, because environments differ, we find wide differences between different races of men, and between different men of the same race. We need not assert that all of these differences are due to environment; clearly enough, however, some of them are. The human race exhibits the effects of adaptation otherwise than in color and physical power. Men have been profoundly influenced by their surroundings not only in health, strength, and stature, but also in habits, character, energy, and intelligence. One need only call to his aid his knowledge of geography to find this truth many times verified.

Adaptations are mostly organic and mostly intellectual. — If now we turn to a more extended study of the significance of the original environment, and to a more thorough examination not only of the uses which man has made of it but of the changes which he has worked in it and of his methods of adaptation to it, we enter upon a field of surpassing interest but of endless detail. It will, however, become increasingly clear that, despite all that man has done in the modification of the habitat and in the accumulation of equipment, by far his greater progress has been worked out on the line of adapting self to environment rather than environment to self, and that the most and the best of these adaptations of man to his environment have been intellectual adaptations. In large measure, indeed, this is what we mean by civilization. Of this sort are the mechanical inventions already noted: "The development of the material civilization performs for man the same service which actual physical adaptation discharges for plants and animals." [1]

Man has, doubtless, done not a little by his skill to adapt his environment to himself. He has cleared forests, drained lands and fertilized them, dug canals, made roads, hewed tunnels, filled valleys, and laid mountains low. Something more he has done, also, not easily distinguishable from these achievements: He has improved upon his environment by adding to it, by erecting factories upon it; he has mined things out of it, metals and fuel — or made things over from it, machines and tools — or harnessed it to do his bidding, in steam and wind and tide and waterfall. He has tamed its products to his use, animal and vegetable — crossed them, selected them, perfected them. And he has opened up new uses for them as consumption goods, as well as new methods with them as production goods. He has gone down to the sea in ships; he has learned its habits and tempers, and why and where and when and how to sail it, in whatever varying new models of craft or new methods of motive power.

Note, however, that much of this accomplishment is not, in any

[1] Gregory, Keller, and Bishop, *Physical and Commercial Geography*, p. 127. This admirable work has been ruthlessly pillaged for facts and materials for purposes of the present discussion. The quotations in the half-dozen pages following are all from this source; and, for what remains, liberal use has been made of paraphrase.

accurate sense, a conquest of nature or even a modification of it. By almost insensible gradations these various successes shade off into something quite different from conquest — into adaptations which are not so much a modifying of the objective conditions with which man has to deal as a conforming of himself and of his methods to the situation which he has to face. In point of fact, also, his actual accomplishments of conquest, many and splendid though they are, go hardly more deep than skin scars. In larger part his triumphs have been of another sort — triumphs of strategy or of evasion rather than of conquest. So much, however, he has accomplished in the total that he is prone not to see accurately what it is or what were the methods — whether he has really leveled the obstacles before him, or has rather climbed over or gone round them. His exploits do not commonly appear to him to be an adaptation of himself to conditions which he could not alter: "He often thinks he is conquering nature when he is really discovering nature's laws and conforming to them. Man can neither create nor annihilate natural forces: under many conditions he is their plaything, but by observing their ways he can often so direct his own action in respect to them as to escape detriment or even gain profit from their action."

Those modifications, then, with which the issues of civilization chiefly rest, are changes taking place in the human factor in the problem — modifications in the organism, either for good or for ill. And in the main, also, as has already been suggested, these modifications are of the intellectural rather than the physical type; and especially is this the case for such modifications as are advantageous. And note also that changes of the purely physiological or instinctive type — those varieties of change to which the adaptations in the lower orders of life are almost entirely confined — are limited in number and are of relatively slow accomplishment. Some changes of this sort, however, there undoubtedly are, as, for example, in the pigments of the skin; in increased power of resistance to cold or heat; in acquired immunity, complete or partial, to certain forms of bacterial menace. Antitoxins appear, indeed, to have been racially elaborated to the point of furnishing a partial immunity against certain diseases.

There can, in fact, be no question that it is through the processes of intellectual adaptation that human progress mostly takes place, as it is to the lack of these adaptations that stagnation or retrogression is often due. It may, however, be true that it is the environment that in most cases determines what intellectual modifications shall take place and how far they are to be effective either for good or for ill.

Especially in questions of climate do these intellectual modifications count for much with the human race. Lacking self-grown fur, man appeals to the arts and implements of the chase, or to his skill in textile making, fending thus both against arctic winds and torrid suns. His intellect levies tribute for him upon the fauna and the flora of his environment. Houses are only looser fitting clothes — as perhaps the snail might credibly bear witness. And these climatic adaptations of the intellectual sort go further: If men cannot acquire, through mere use and wont, immunity against disease, they can, in many cases, remove the causes — drain the swamps, suppress the mosquitoes, destroy the rats. Man teaches himself new methods of diet, new rules of work and of rest, new habits of living. Out of his knowledge of bacteriology, he provides himself with prophylactics and preventives. In short, he summons to his aid the resources of modern sanitation, of preventive medicine, and of remedial medicine.

The limits of adaptation. — It should now be clear that, under the most favorable as well as under the least favorable conditions, the better part of man's adaptation has been an adaptation of self to environment rather than of environment to self; and that it has been, on the whole, an intellectual rather than a physical adaptation. In the fact that man has taken thought "is the key to his special power of adaptation; . . . this sets man apart from the rest of the animal world: . . . weaker in body, slower of foot, duller of scent and sight, . . . he becomes superior to them all through his capacity for mentally conceiving the requirements of a situation and taking advantage of them."

In the main, however, these processes do not go far. Unfavorable climates and their attendant diseases are likely to prevail in the contest. That these diseases tend with time to become less virulent, is merely another aspect of the fact that while they are new they make frightful ravages. The racial reaction is discouragingly slow, and defeat is commonly declared in the earlier contests. But, in any case, defeat is almost certain, unless the change in habitat takes place gradually, or unless the process of acclimatization comes about along the line of intellectual adaptation.

But, at the best, man's battle for tropic victory is, on the whole, a losing battle. Something he does; yet he, or

his children, or his children's children, one day give up the struggle. The tiger and the hyena man may drive from the jungle; even the venomous snakes he may exterminate. Possibly, also, he may hold afar off the pestilences of the night and the wasting fevers of the noonday. But the torrid heat is still there: if he remains with it, he finally surrenders to it, is paralyzed by its bounties, lulled to its languors, relaxed to its temptations, weakened to the level of its tasks. For it is evident that, with the passing centuries, civilization is not advancing its frontiers further into the tropics; rather it is progressively retreating, making good this loss by new conquests further toward the poles. From its subtropical cradle civilization has moved steadily north and west. The beginnings had to be made where the problem was easy — where some energy for progress could remain over from the sheer necessities of living. These early habitats were the racial kindergartens. But their discipline once conferred, the problem grew too easy to be disciplinary. Thereafter, only habitats more urgent in needs and more austere in gifts could afford the conditions of progress. The original habitat meant henceforth a deterioration of racial stock. "Bread fruit, introduced from the Pacific, is said to have carried the Caribs back to savagery." Societies, like individuals, when once mature, demand meat fit for men. The tests, the problems, the gymnastics of childhood, must be put away with all other childish things. Tasks require to be apportioned to strength; tepid baths for the sick, but the cold douche for the strong. The best temperature is the reaction limit. Even for moral growth ignorance and innocence are not one but two; one rightly prays only that he be not led into temptation beyond his strength.

It may, then, be taken as established that a high level of civilization is impossible in those zones where the snow never falls. Precisely as progress is too difficult a problem in the frigid zones for any race yet fully to have solved it, so the problem of mere existence in the tropics is so over-easy of solution as to have degraded man, through stagnation and ignorance, into an incapacity for civilization.

The relative plenty or scarcity of products. — Still confining ourselves to this large and aggregate and, in the main, social view of production, we find no difficulty in understanding why those things that are easy to get are relatively plenty, and those things difficult to get are relatively scarce; or in understanding how things are relatively easy to get when the labor and the instruments for their production are relatively plenty. In countries where the land and the sun and the air are especially favorable for the production of fruit, fruit is likely to be plenty and is, therefore, likely to be cheap. Or — were we yet ready to discuss competition and prices — the same facts might be interpreted to mean that because of the abundant means of production, the costs of production are relatively low and the products therefore low in price: that winter flowers and summer ice are necessarily dear; that fish are low priced at the ocean side, because, the facilities for production being practically without limit, nothing need be paid for the opportunity to use them. Goods at a distance from the conditions favorable to their growth or extraction must sell at an increase in price because of the greater difficulty of attainment. In a social view, these difficulties of attainment express themselves merely as the relative scarcity of the means of production; in the competitive economy, as higher money costs of production. Transportation is itself one of the processes of production. Goods which can be transported only short distances, or not at all, are markedly cheap where the facilities for their production are especially plenty, and markedly dear where the facilities are especially scarce.

But causes of plenty or scarcity of products are to be traced, not solely to environmental conditions, but also to plenty or scarcity on the human side. Where any line of ability is common, the products from it will be plenty. The result in a competitive society must be that this line of ability will be poorly paid and its derivative products low priced. Carvings are cheap in Oberammergau, music in Italy. When doctors of philosophy are plenty, they may command no more per year than the football coach — a scarcer sort of man — may claim per month, — it being

assumed, of course, that the services of both sorts of men are wanted.

We have, then, come thus far in our analysis: On the appetitive side man is a being of needs and desires which he must satisfy mainly through the various processes of production. His success as a producer is twofold in aspect: (1) his personal powers and capacities — his character as organism; (2) the nature of his habitat — his possessions, his exterior equipment both as aid or opportunity and as limitation. What things he produces and how many are questions, on the one side, of what he wants — on the other side, the supply side, questions of his productive power; what he has depends upon what he can do, and what he can do depends upon what he is and what he has to do with.

Chapter II will examine the institutional conditions under which the production of wealth takes place; the characteristic traits of a competitive individualistic society; its pecuniary organization; the relation of the price system to its organized activities; private property and the relation of it to private gain; the significance of money and of pecuniary methods and standards; the concepts of *price* and of *value;* the delimitation of the economic field; and the definition of Political Economy. And from all this some advance will be made toward an understanding of what is meant by the *Régime of Price* and what is the nature of competitive institutions.

CHAPTER II

COMPETITIVE ECONOMICS; THE RÉGIME OF PRICE

Institutions change. — It is a bad habit of thought to assume that present conditions — and especially the present economic organization — have always been much as they are now, and will always remain so. We have, it is true, an existing régime of which the leading traits are private property, individual initiative, and competitive production for the purposes of exchange. And to say that men produce things mostly for the purpose of selling them amounts to saying that in business affairs all of us are trying to get money for goods — are reckoning our gains in terms of market price — are making all of our economic activity turn upon a money computation.

But other bases and methods have prevailed and may equally well prevail again. The times when slavery was general were obviously times when there existed quite a different property system. There was private property, to be sure, the slaves themselves being the property of their owners; but, in fact, the slaves themselves might have been, and have at some times been, the slaves of the community — the city, village, or state. Slavery does not necessarily imply private ownership. So villages have often been the owners of the agricultural lands, and in some parts of the world they still are so. Much land now — parks, streets, sites of public buildings — is owned in common public ownership. The single-tax people urge strongly that in substance all land ought now to be so owned. And, on quite different grounds, some socialists urge this same view; and they go yet further; they want all of the instruments and means of production, *social capital*, to be owned in common. Two or three hundred years ago, in English Agriculture, some of

the farm machinery, most of the male breeding stock, and practically all of the wood and pasture lands were the joint property of the residents of the manor. It has long been true that in many countries the railroads are public property. The forests and the mines and the water powers may at no very distant day come to belong to the people in general. These things, indeed, may not be far off, even for America.

Competition merely a present institution. — It is no part of the present purpose to urge the desirability of all or any of these changes, but simply to point out that little that is, in the present social and economic order, has long been as it now is, that much of it has not been at all, and that little of it is fundamental or sure to last. Private property, individual initiative, competition, the money system, and production for the price market are mere present adjustments, no one of which has always been, or is everywhere now, or is certain to remain. Each order becomes old and changes, and nothing in human life is certain but this process of change. And nothing of it all is right or just or good in the sense that it must endure, or that something else may not better take its place.

> "Fair virtues waste with time;
> Foul deeds grow fair thereby."

One form of life prospers by good fighting, another by good running away or by good hiding. Fang and venom and stink glands in their times and places have their uses. In a warlike and predatory society the qualities that are most essential, and therefore the most commendable, — qualities in the absence of which group survival would be impossible — rusefulness and ruthlessness and thirst for blood, — in an industrial society occasion its crimes of violence, its feuds, its jingo wars, its poisoned foods, its poisoned poisons. That modern industrial society has its pirates is not surprising in view of the fact that only a few centuries ago piracy was the chief business of some of our ancestral races. The Napoleon of current finance is the lineal descendant of the tenth century viking. He succeeds now by virtue of the qualities which gave success then. But at that time his prowess

was socially serviceable; the intervening years have now brought it about that we no longer need him; rather we need to be rid of him. What was once predation for group welfare is now become predation upon the group. The early type of prowess is now grown untimely. The best wolf for wolf purposes makes an especially bad sheep dog. For jungle times the jungle problem calls for jungle qualities. Everywhere survival of the fittest means merely the survival of the fittest to survive. A sympathetic hyena or a benevolent tiger would be a failure and a misfit for his peculiar problems. Institutions likewise are good or bad according to the degree of human development and the problems of the time. Only that government is good which both governors and governed are fit for. The same form might be the best or the worst according to the men and the occasions. The need of the present is to develop new virtues and, in not a few cases, to get rid of the old. Absolute good there may somewhere be, but most good is merely relative good. That which is, may be right, but not in the sense that what is to come may not be better.

The competitive order a pecuniary order. — Modern society is, then, distinctly a pecuniary society, a society of business. Despite the fact that society was not always pecuniary, — has, indeed, been so only for the narrowest margin of years out of a long human history, and may remain so only for the next short swing of the pendulum in the life of man, — the political economy that we must study to-day is the political economy of to-day. Mainly, under present conditions, we produce for the market, for exchange, despite the fact that a few generations ago the contrary was the truth. And at present we produce in the larger part for a competitive, impersonal world market. This is the era of free individual initiative under private property for private gain. So far, indeed, is this the truth that even combination and monopoly may be regarded as merely secondary aspects of competition and of individual initiative. Strike this fact of competition at its very center of tone, and we discover that we are in a régime of price. Money is the focusing point of modern business affairs. It is the standard of values simply because

in a society producing for exchange it is the one established intermediate commodity. Therefore, as medium of exchange, it is the standard of immediate and of deferred payments. Through credit, the money economy lays hold upon even the distant future. Thus to object that more and more, as society has advanced from a society of isolated production through a barter economy to a money economy, it is now moving over into a credit economy, is really to assert merely that in new and marvelous ways money is taking on a still greater emphasis. More and more, and more and more exclusively, and over an ever widening field of human effort, human interests and desires and ambitions fall under the common denominator of money. Doubtless many of the best things in life do not get bought and sold. Some of them are not exchangeable; and not all things that could be transferred are men weak enough to sell or other men strong enough to buy. Not every man has his money price. But most good things do, in greater or less degree, submit to the money appraisal. Health is easier for him who can take his ease and who has the wherewithal to pay for good foods and medicines, to travel, to employ good nursing, and to command capable physicians and efficient surgeons. And, in their degree, also, love and pity and respect and place, are bought and sold upon the market. It takes a goodly number of dollars to get a child safely born, and even more dollars to achieve for one's self a respectable burial. Much money is power over many things. Money is the standard of value in the sense that all values of all exchangeable things are expressed in terms of it. And this holds, not only of all commodities and services, but of all incomes and of all capitals. The capital of a banking house, or a factory, or a railroad company is not a congeries of tangible things, but a pecuniary magnitude — so many dollars. All economic comparisons are made in money terms, not in terms of subsistence or of beauty or of artistic merit or of moral deserving. This same standard tends to become also the test and measure of human achievement. Men engage in business, not solely to earn a livelihood, but to win a fortune in a pecuniary sense. To win by this money

test is to certify one's self tangibly and demonstrably as having scored in the most widespread and absorbing of competitions. Is one a great artist — what do his pictures sell for? Or what is the income of this leading advocate? or of that famous singer? How great are the author's royalties? The pecuniary standard tends to be carried over into non-pecuniary fields.

It is almost past belief how far both in degree and in direction money valuations pervade all our thinking. Cheapness is prone to be synonymous with ugliness, richness with beauty, elegance with expensiveness. No one can tell for himself where the really æsthetic begins and the sheer pecuniary ends. In the field of morals, also, the so-called cash-register conscience is an actual thing. And one might go still further and note that almost all great political issues, and almost all absorbing social problems, and almost all international complications rest upon a pecuniary basis. Our national problems are tariff, labor unions, strikes, money, trusts, banking, currency, railroads, conservation of resources, shipping, taxation. Success in elections, in the selection of senators, in the making of laws, and in the selection of judges is prone to be desired for financial ends and to be decided by pecuniary means. Diplomatic complications hinge upon trade connections, the open door, fisheries and sealeries, colonies for markets, and spheres of influence for trade. Navies are trade guardians and trade auxiliaries. Eliminate from local politics the influence of the public service corporation, of the contractor, and of the seekers for special pecuniary privileges, and what is left of the municipal problem will be mostly the pecuniary nexus of the slum with the ballot box, of the saloon with the police system, and of saloon and slum and brothel with the city hall.

And now we are belatedly ready for a few definitions technically formulated for economic purposes:

Money is the intermediate commodity for which goods are commonly sold.

The *price* of any specific thing (good) reports its exchange relation to money.

The *value* of any specific thing reports its exchange relation to any good, money or other.

That is to say, price is a particular instance of value. Both value and price, therefore, are methods of expressing the exchange ratio between two different goods quantitatively specified. Price is merely a particular instance of value — the case where one of the exchanged goods is money. So we say that the price of a particular horse is $100, and that the value of this horse is two particular cows, or two cows of a certain definite grade; or is twenty particular sheep, or twenty sheep of a certain definite grade; or is a certain 100 pounds of wheat, or 100 pounds of a certain definite grade.

The field of economic science. — The time has arrived, also, for a definition of *Political Economy* in the present competitive order. But first it must be noted that no science is to be delimited by the nature of its subject matter. Test this by finding, for example, from the point of view of how many sciences you may discuss a stick of wood. Pretty much any fact may form part of the subject matter of pretty nearly every science. All knowledge is somehow or other related to all other knowledge, and every fact to every other fact — since this is a real universe in which we live, an organized, interrelated whole. Man's commercial and industrial activities, his business of getting a living, are in countless points of contact with questions of social morality and of physical health; with questions of pedagogy and of jurisprudence; with chemistry and physics; with religion, criminology, and penology; with psychology, sanitation, bacteriology, and dietetics. Geography is handmaid to transportation. Geology discloses the gold and silver mines. Astronomy may hide the secret of droughts and famines.

That which delimits a field of science is, therefore, not the field of facts treated, but the purpose for which the facts are treated — the point of view or of approach, as determined by the central problem under investigation. As political economists we have small concern, then, with the Australian ballot law or with the popular election of senators; ours is not the problem of government. Nor shall we investigate the chemistry of dyestuffs, or the physics of waterfalls or

of steam, or the problems of the electric motor. Yet we must do all this were the political economy of present society rightly defined as " an inquiry into the nature and causes of the wealth of nations " (Adam Smith) ; or as the " science of the production and distribution of wealth " (J. S. Mill) ; or as the study that " examines that part of individual and social activity which is most closely connected with the attainment and with the use of the material [?] requisites of well-being " (Marshall) ; or as an " inquiry concerned with the production, distribution, and exchange of wealth and services " (Sidgwick) ; or as the science that " deals with those activities of man which are directed toward securing a living " (Bullock) ; or as " the study of the material world and of the activities and mutual relations of man so far as all these are the objective conditions of satisfying desires " (Fetter) ; or as " the science which treats of those social phenomena that are due to the wealth-getting and wealth-using activities of men " (Ely) ; or as " the social science that treats of man's wants and of the goods upon which the satisfaction of his wants depends " (Seager) ; or as the " science of man in his business relations to wealth " (Seligman). Better than any of these, as hinting at the existence of a point of view or of a central problem, is Johnson's formulation : " Economics is the science which deals with wealth in its most general aspect ; namely, its value aspect." Still better, perhaps, is the following : *The science that treats phenomena from the standpoint of price;* — therefore, mostly, industry and business.

It is, in fact the value problem, — or more specifically and more accurately for present society, — the problem of market price, that is the central and unifying problem of present-day economics. Price, then, must attend and characterize all things that are economic ; and all things so attended are so far economic in character. And more things than those which accurately are material must fall within the scope of price. Price extends its sway to the utmost limits of whatever is property, tangible or intangible, — whether material or immaterial. Property covers — and therefore price covers — debts, good will, franchises, — every-

thing that is bought or sold. Price includes also many non-property facts — human services, such as the goods for which payment is made to the actor, preacher, teacher, or singer. And, by the way, all efforts or processes are economically productive for which a price is so paid or which, directly or indirectly, enhance the price. But more of this later — grievously more.

It has been the purpose of this chapter to exhibit the present economic system as one of private gain in terms of price, of private property, and of production for sale in a price market — a system in which success or failure presents itself as a computation of price income against price outgo; to show that private property is in the main a modern phenomenon — an institution that has already greatly changed, is undergoing constant change, and that conceivably may some day disappear; to deny that there is anything necessarily fixed or fundamental in the price system or in so-called economic laws, other than such fixity as may attach to the environment and to the character capacities and needs of human beings; but nevertheless to make clear that the task before us is the study of the situation as it actually is, with small attention to its genesis, excepting so far as its past may throw light on its present, and entirely without attention to conjectural or probable future modifications; and finally and especially to emphasize the warning that this conscious delimitation of our field and our problem must not imply either permanence or impermanence, merit or demerit in the things that we study.

The chapter to follow will show that the key to the understanding of the various problems of the competitive price régime is the theory of price itself; that wages, rents, interest, and all other economic incomes and compensations are price facts, and appeal for their explanation to an analysis of the general principles of price; that, in its theoretical aspects, the science of Economics is, indeed, but little more than a study of price and of its causes and its corollaries; that the various costs in the production of commodities are items of price; that each good produced is commonly and typically the joint product of various coöperating factors, is subjected to the price appraisal, and is significant as a prod-

uct only in the degree of its commanding a price; and that the process of apportioning a joint product of price among the producers of it — the great distributive problem — resolves itself into a series of subordinate or collateral problems of price; that none of these problems is ethical in nature; that the economist's business — as economist — is not the formulation of moral standards or the making of moral appraisals. And, finally, it will again be emphasized that, as there is nothing necessarily permanent in the facts with which the economist has to do, or in the economic system under which these facts are organized, so there is nothing necessarily ultimate or enduring in the science which treats of these facts; that its generalizations hold only relatively to the facts which it discusses; but that nevertheless some few of its generalizations must seemingly hold for all of the different possible forms and conditions of organization.

CHAPTER III

THE RÉGIME OF PRICE — *Continued*

Price the pivot of industry and business. — We have seen that precisely because the present economic life is organized upon lines of private property, of pursuit of individual gain, and of production for exchange, it is inevitable that the center about which all economic activity revolves is the medium of exchange, the price standard. It is this fact which in turns fixes the problem of price as the central problem and the organizing interest of current political economy as a science. The proof of this is, however, mostly to be found in that constant return to the price problem which we shall find inevitable as we approach, one after another, the subordinate problems of the science. And these problems will, in turn, declare their subordinate character by this very fact that they are only to be solved by an appeal to the analysis and the laws of price. In the fact that anything sells at all in the present economic order is implied its sale in terms of price. Wages, for example, are the price of the services of employed labor; profit, the price reward of the independent, self-employed laborer (the *entrepreneur*, *enterpriser; Unternehmer*, or *imprenditor*); rent, the price commanded by property lent in time for hire; interest, the per cent which the time use of wealth, in terms of price, bears to the total price. Each of these is a price quantity or item, and each presents itself specifically as a problem of price adjustment.

Price the pivot of distribution. — And still further: All distribution takes place as a price process. Each particular product is a price item and is due to the joint employment of different human agents and of a wide range of instrumental or property items — land, machines, raw materials, patents, franchises, and the like. The *price* of the joint product —

not the product as such — is the amount which is to be divided, *distributed*, among the various coöperating factors; and each of these factors, as we have seen, receives its distributive share as a price quantum. Not only, then, are the forces and processes under which and by which the sale price of the product is adjusted and determined to be studied as particular problems in the theory of price, but also the different distributive shares derived from it are equally price problems. Many economists, it is true, contend that the price of the final product, of the consumable good, must be regarded as the cause of the distributed price shares. Other economists insist that the payments made for the labor, the instruments, etc., — price items, — are, as costs of production, the causes of the value of the jointly produced price product. To which view, if with either, the truth is accurately to be ascribed, we need not now debate; it is enough to note that this is an issue to be solved only as a problem in the theory of price. Costs, products, and distributive shares are price facts and are somehow related; and this relation is a relation of one class of price items to another class of price items.

The science of economics and the art. — It must, however, still be held in mind that, in a society differently organized in its economic life, the central problem of political economy and the derivative and surrounding problems might be quite different. Our classifications and generalizations and principles and laws must be constructed and formulated to fit the needs of an analysis of a competitive, entrepreneur, private-gain, and private-profit society, in which production is prevailingly and typically production for exchange, and in which in turn exchanges take place through money as an intermediate. Our explanations will best run in terms of the process as it actually takes place. We ask not primarily what ought to be, but what is. We are — in the first instance, at any rate, and as economists — set to search out the objective facts, to analyze and synthesize and generalize these facts and their sequences and their processes. At this stage of the study — the science of it rather than the art — our business is not to approve or to condemn, to regret or to indorse, to commend or to denounce, but only to make a coldly unsympathetic, impersonal, and objective report of the actual ongoing of things. Defense, apology, or condemnation are no

part of our business. After we have learned what we can of the facts — but not till then — will the time have arrived for passing judgments of approval or of disapproval. Then may the results of our work be handed over to the social philosophers; or we ourselves, Heaven so willing, may assume this rôle and may undertake the task of philosophical or ethical or sociological appraisal. As the final step of it all, we may, perhaps, be able to decide what things are good in all this vain life of shadows, and may come to approve or to condemn, may recommend, may set ourselves to modify, amend, abandon, substitute. But the economist, as such, has no criteria by which to test the worth of what he finds. As economist, his business is solely with the facts: Trojan and Tyrian stand in equal estimation with him. For close thinking, science and art must be kept separate — the "world of description" from the "world of appreciation" — facts from appraisals. This is, to be sure, a scientific ideal, rarely attained, and violated especially often in the social sciences — measurably often also in the present book — but violated always at some hazard to scientific truth.

Economic doctrines valid only in appropriate conditions. — As part, then, of this clear thinking, it is necessary to recognize not only that the social organization might be very different from the present, has been so different, and will probably with passing centuries again and again become different in many diverse ways, but also that the economic doctrines valid and adequate for existing society must, perforce, in other conditions fail of adequacy, as these conditions may be fundamentally different. Not that each decade or each century had its separate system of classifications and generalizations and principles: this is not necessarily true — can, indeed, be true only so far as the fundamentals of human life may change. Most of what is valid now in economic analysis will continue to be valid so long as our society remains a society of private profit, individual gain, and production for the price market — will remain valid that is, in such fields of our economic life as retain these characteristics, and in the degree of their retention. Even with the present national post and with the possible state or national railroads, some share of the economics of competitive production holds good, since these public activities buy their labor and supplies in the open market and sell their services at a price.

But any of the other possible radically different types of organization would necessarily have its corresponding different central problem. All science is essentially pragmatic: its problems organize its thinking. Thus, definitions and classifications are good or bad according to the purpose of the particular in-

vestigation in hand. Precisely, however, for this reason they are not arbitrary.

Thus if one were to ask how much of current economics would be valid for a systematic socialism, — it being assumed that socialism means a common partnership in the implements of production (social capital), the operation of these for common account, with some sort of administrative division of the aggregate consumable product, — it must be admitted that the salient features of our competitive price economics would disappear. What might be the theoretical economics of socialism it is difficult to formulate. Money and price would seemingly have no place — at least no necessary and central place. Exchanges, if any remained, would be merely incidental and sporadic, or occasional, and, in any case, non-essential. On the one side, economics would shade off into administrative theory, a sort of political science. Seemingly, however, its central and unifying problem would be that of utility rather than of market value or price. And it is even more difficult to surmise what might be the science of economics for ants or bees or peccaries — their *wirtschaftliches Leben*. But something of the sort there might reasonably be, must indeed inevitably be, were there intelligence to construct the scientific generalizations. Likewise the aspirations now called Home Economics and Agricultural Economics have in them the possibilities of real sciences. So, also, doubtless, of Sociology.

Nevertheless — and this is the immediate goal of the argument — much that belongs to any human economic system must be common to all systems that are human. There will, for example, always remain the fundamental fact of human need and desire; there will always remain the dependence of aggregate consumption on aggregate production; and there will always remain the twofold dependence of aggregate production upon the efficiency of man and upon the quantity and quality of his instrumental equipment.

To summarize: The competitive economy is an exchange economy, and therefore a price economy. Production takes place typically for the purposes of sale. Gain, therefore, is sought in terms of price, and accrues in terms of price: All economic purposes and methods take on the price emphasis. Price becomes the central and pivotal fact in all industry and business. The theory of price is thus the core of all economic theory; the rest is corollary or application. Thus price presents itself in the competitive order as the unifying and organizing interest and problem of the

science, the point of view with reference to which the economic field is delimited and its horizons fixed.

It will be the task of the next chapter to bring into clear view that fundamental fact or force which, in the competitive order, imposes the necessity of trade; makes imperative the existence of a medium of exchange; stamps the competitive régime as inevitably a price régime, and organizes all economic activity about the medium of exchange through which the exchanges take place. The ultimate and directive fact in the case will be shown to be the specialization of economic functions, — what is sometimes called the division of labor, — the assignment of productive activity to capacity and to favoring opportunity. Trade is merely the competitive method by which the attendant advantages are secured. But it will also be made clear that neither in importance nor in attainability are these advantages peculiar to the competitive régime. Other types of organization might offer the same advantages, obtaining them, however, by different methods. Trade and money are merely adjustments for making specialization of function possible in a competitive society. Trade and money are thereby the characteristic traits of the actual economic order; and money is the pivotal fact in trade.

CHAPTER IV

SPECIALIZATION AND TRADE RELATED TO MONEY

Specialization, interdependence, and efficiency. — The forms of life of very simple structure rank as the lower orders, not because complexity is in its nature preferable to simplicity, — for with many things the contrary is the truth, — but because with the higher forms of life a greater efficiency goes with increasing complexity. The single-celled organisms are all mouth for purposes of ingesting food and all stomach for purposes of digesting; they are all locomotive apparatus for purposes of moving, all reproductive apparatus for purposes of multiplication, all sensory apparatus for the receipt of stimulation. Lacking specialized parts and functions, the correspondence to environment is limited in extent and defective in kind. Only the simpler and more commonplace adaptations are possible. Emergencies fail of appropriate provision. With greater specialization of function goes greater effectiveness of function, an ability to take advantage of a wider range of facts in the environment and to adjust to a wider range of emergencies. Efficiency for the purposes of life grows with the development of special organs and special adjustments for the accomplishment of special things. In the selective process, increasing specialization means increasing advantage in the struggle for life.

This law of development by specialization is widely illustrated in many fields of life and on many levels. Nor are illustrations and analogies lacking outside of the biological field: in astronomy, in the slow emergence of suns and planets and satellites, each with a definite path and specific share in the maintenance of this stupendous moving equilibrium; in history, in the formation of castes and classes; in political science, in the subdivision of the primitive king-function of priest, judge, war chief, and executive into the various functions of parliaments, courts, field marshals, and ad-

ministrative bureaus; in linguistics, in the slow differentiation of the amorphous yelp or cluck or grunt — the exclamation, speech without parts, word protoplasm, so to speak — into the various specialized, coöperating functions together making up the sentence.

But perhaps the best illustrations of this principle of specialization of function — illustrations which are particularly to the present purpose — are to be found in the field of political economy. To understand the necessity of a medium of exchange, a money, in human affairs, we must understand the importance of trade. To measure the importance of trade, we must appreciate the significance of specialized activities. To this end, we must realize that men in society are interdependent, and that they are in society precisely because they are by nature interdependent, there being no welfare for any individual but in association with his fellows. We must understand also that it is only through the specialization of economic functions that this interdependence can assume the guise of a surpassing good fortune. So much having been made clear, the next step will be to recognize that, in actual society, the possibility of specialization not only makes necessary the institution of trade but also depends on that institution. And finally it must be made clear that trade, to be really practicable, requires and assumes an exchange medium, an intermediate in trade, a money. And having by these separate steps arrived at our argumentative goal, we shall so far be prepared to realize the ultimate nature of the price régime in which we live, the forces behind it, the significance of it, and, in some small part, the manner of its functioning.

Isolation imposes inefficiency. — The lot of the pioneer is necessarily a hard one. Unable to trade, and therefore unable to specialize his activities, he is compelled to be inefficient. The new continent, with its wealth of new resources, its expanse of unexhausted lands, its store of uncared-for fruits, its teeming life for sport and food, may seem to assure to him a position of ease and plenty. The wide ranges of land do not, it is true, offer unlimited opportunities and bounties, but, in comparison with his necessities, the

supply far outruns the need. But, though he obtains his food easily, it is only during a part of the year. He needs also to harvest and to store. He must have shelter. After a fashion, of course, he may be his own carpenter, smith, shoemaker, weaver, and tailor. But even so, there will remain the need of hunting appliances, and of powder and ball. Shorn of all that he brought with him and cut off from all touch with his fellows, the existence of the pioneer would be well-nigh impossible. At the best, even though his food lacked nothing in volume, it must be grievously restricted in variety. Most things he must get along without — the products of distant lands, and all those goods dependent for their production on extended manufacturing plants with their costly equipment, their multitudes of employees, and all their various but concurrent lines of skill. No man is, in fact, sufficient for his own needs in any adequate measure. Fortunately for humanity, men depend for their welfare mostly upon one another. One must live among his fellows or must suffer. Too sparsely inhabited countries are never prosperous. That costly thing, transportation, absorbs overmuch of their resources.

In the larger part, therefore, the productive abilities of the isolated man are wasted. Men in society differ as widely in aptitudes for production as do zones and continents in natural resources. Unless each man in society specializes in productive activity, the wastes of productive power must be no less than would attend his isolated state. For productive purposes, indeed, each man would still be isolated. That one thing, or those few things, that he could do well he must not do. Much he must do that he would far better let others do for him. Jack at all trades, he is necessarily master of none. His own welfare, therefore, and the welfare of his fellows demand that each member of the society follow the line of his especial aptitude so far, of course, as his activity is socially useful. Each then produces a surplus of his peculiar product; a surplus which he can exchange for the surplus of others. Thereby a larger product accrues to society as a whole and a larger total of consumable goods to each individual member of society.

Specialization and industrial organization. — This is the principle and the method of what is known as the division of labor, specialized production, working out into a wide variety of trades and professions, and into the minute subdivisions of processes, the complicated organization, and the vastly cheapened processes of the great factories. Even in the day of Adam Smith, a century and a half ago, the making of a pin involved eighteen distinct operations, each requiring its different specialized laborers.

This wide specialization of industrial functions involves, it is evident, an extreme dependence of each producer upon his fellows. The shoemaker would starve without the farmer and freeze without the carpenter and the tailor. In some of its activities, our present system is therefore a system of unconscious, but widespread and effective, coöperation.

Competitive specialization requires money. — It should now be clear that in the economic life, as in biology or astronomy, specialization, interdependence and coöperation are merely different phases or aspects of one process — a process involving a redistribution of functions in production and making possible an enormous increase in the aggregate of products, requiring therewith — in the competitive system — an exchange of products between individuals, and making almost imperative the use of a common medium of exchange. The entire process, in each of its different aspects, is, indeed, one among many illustrations of the intellectual adaptation of each man to his environment.

Regional specialization and trade. — Nor are the advantages of specialized economic functions limited to the relations between individuals in the same society. They are equally manifest in the relations of nations or societies to one another. Division of labor takes place between countries and zones. International specialization involves and illustrates the economic interdependence of societies and is conditioned on the possibility of international trade. Precisely as with specialization among individuals, interdependence and specialization must go together and must achieve their advantages through trade. To place obstacles in the way of any one is to interfere with the others and to

forego the advantages which together they offer. Through trade each country and zone shares in the products and the good fortune of every other. And between countries, as between individuals in any country, these advantages are more easily achieved with every improvement in transportation and are achieved in ever larger measure. To restrict trade is parallel to making transportation more difficult; it is to interfere with the international specialization of economic activity.

Only competitive specialization requires trade and money. — It should now be obvious that the advantages of specialized production are not peculiar to the competitive organization of society. They might be equally great in any other economic order. A slave or a feudal economy or any possible coöperative or socialistic society would find equally imperative the organization of its productive power into specialized activities. Possibly also, some other form of organization than the present may some day prove to be a better way of working out this problem of specialization. Trade is, at any rate, only one of the possible ways, and among the different possible ways may not be the best. It is, in fact, not the specialization of functions, but only the competitive manner of organizing this specialization, that imposes the necessity of trading. Trade is the competitive way of making specialization possible. But trade is purely a competitive phenomenon, a mere adjustment, important only in the competitive order, though in this order characteristic and central. Accurately, indeed, trade is not something permitted by competition or imposed by it or derived from it: it *is* competition, the heart of it, its central characteristic fact. It follows that it is trade and not specialization that implies and imposes the practical necessity of money. Any intelligently ordered society will have the specialization; it is only the competitive society that requires also the trade and the money. It is upon trade that, in a competitive society, all the advantages offered by specialization depend. And trade demands a medium for its transaction, a money. Once there is the money, society is in the régime of price.

Barter and exchange media. — Doubtless there are evils enough, both incidental and intrinsic, attendant upon the régime of price, the pecuniary organization of society. But so, also, are the benefits great. It is peculiar to the competitive society merely that it resorts to trading rather than to seek the solution of its problem through the distribution of its product by lot or by other administrative device or decree. A competitive society must perforce be a pecuniary society, or must forfeit the measureless advantages of its automatic coöperations in the great give and take of trade. To forego the use of money would be to revert to the system of barter. In no essential way, however, would this modify or palliate the existing situation, but would merely increase the difficulty and the friction of it.

Nor, in the last analysis, would the system of barter mean the absence of a medium of exchange, but merely the multiplication of media. Value relations would exist as at present, but no price system — that is, no one medium of exchange. Instead, there would be an indefinite multiplication of media. The possessor of any particular good for sale would rarely come upon a man having the wanted thing and wanting the offered thing. Thus, by trading and retrading, possessors of commodities which they desired to exchange would finally acquire command of the particular commodities exchangeable against the particular commodity desired. That is to say, each man would, as his necessities should dictate, be employing a medium of exchange, an intermediate between the wares for sale and the commodities desired by him; but this intermediate would be for different men, and for each man at different times, a different medium. A money economy has established itself only when one commodity has been conventionally specialized to serve as the common intermediate of exchange and so as the common standard of value.

Goods as demand for one another. — But, evidently, in the absence of money the demand for any particular good must always be made up of the offer of other goods. Goods would furnish the demand for goods. The exchange process would establish value relations, but not price relations.

The more goods of each sort, the more demand for goods of other sorts. All demands and all supplies would be embraced within the total of product. Supply of some goods would function as demand for other goods. Total supply of products and total demand for products would be merely different ways of looking at the total of products. Viewed in this large way, then, aggregate demand and supply are one and the same thing, — the social dividend.

The money demand for any one good. — In the money economy the facts remain essentially the same, but become more manageable. There are many different possessors of many different sorts of goods, each of whom, we will say, is disposed to replace some particular item of his goods with a hat. But no one of all these various possessors of goods is likely to look for a man with hats to trade. Nor, if he looked, would he be likely to find any man having hats and desiring the particular thing offered for them. All the men demanding hats will, therefore, as the first step in the exchange process, translate some part of their holding of goods into a holding of money. The various unhomogeneous commodity demands for hats will thereupon have coalesced into a homogeneous money demand. Only price offers, not offers of goods, are to be set over as demand against the supply of hats. The market price of hats — the value of hats in terms of the money commodity — is the adjustment point between these money demands for hats and the supply of hats. The supply of hats is also presented in money terms — is essentially a demand for money on the part of the owners of the hats.

And precisely so with any other commodity that arrives at its market standing in terms of price. Doubtless other value relations exist, — corn to cloth, wheat to shoes, horses to corn, corn to shoes, — but each of these commodities attains directly to its market standing through the process by which it is awarded its money price. The value relations between the different commodities are thus arrived at through comparison of their prices. The direct setting of the different commodities over against one another for value adjustment is possible, of course, but rarely occurs; barter is uncommon.

It is not, however, to be inferred that necessarily, or even perhaps commonly, when men market their goods against money, there is a distinct and definite purpose to apply the selling price to any specific line of purchase, hats or other. One often sells his goods for money in the belief merely that the money obtained will, earlier or later, buy for him an indefinite something more to his purpose than the thing he sells.

Nor is it to be inferred that the possession of money is necessarily due to the sale of some article previously possessed by him who has the money, or by any one else. The money may have been given him; or he may have inherited it; or have obtained it by a pension, or by gambling, or by stealing. It is to the present purpose merely that he has it.

Nor, in fact, need his holding of purchasing power be necessarily in the form of actual tangible money. One often has a money credit at the bank against which one draws his check. Nevertheless, the credit is something that runs in terms of money, is equivalent to money, and functions as a money demand in the market process by which the price is adjusted. And this is sufficient for the present purpose; for the time being we shall treat this credit as actual money.

The examination so far made of the competitive system, the régime of price, has already sufficed to show that, even under competitive conditions and, indeed, by the very nature of these conditions, men are essentially coöperative and interdependent in their productive activities; that their antagonisms attach solely to the price aspects of the competitive system, its trading process, and manifest themselves in the effort to obtain through trading the most possible for the least possible; that precisely as specialization in a competitive society creates the need to trade, so the possibility of trade is the permit to specialize, trade and speculation being, therefore, mutually conditioning facts; that actually, even if not by imperative necessity, trade requires and imposes the employment of money; and, finally, that all the demands for any particular thing on the part of the various possessors of other things present themselves as sums of money offered for the particular thing; demand, in the money economy, is money demand.

The topic, then, which is next to require our attention is the process by which the supply of any given good is equated against the money demand for that good at the point of ad-

justment termed the market price. What is the relation of the quantity of the supply to the price? What the relation of the various prices which the different holders demand for their goods? What the relation of the usefulness of a good to the prices which different men will pay for it, the different demands? And what is the relation of these different demands to the price?

CHAPTER V

THE ADJUSTMENT OF PRICE

Price-making as the outsider sees it. — An onlooker at an auction, or a visitor at the Stock Exchange or the Board of Trade, would observe that there are present both bidders for goods and offerers of goods, and that the trades or sales take place at a price which is agreed on in the process. He would further note that if, on the Board of Trade, the selling side of the market is offering more supply than the buying side is willing to take at the ruling quotations, the prices will go down. If, on the other hand, the buying orders are coming in relatively fast, they will probably be found impossible of execution without forcing the prices up. On days of an active market, prices may rise or fall often and sharply — fluctuating possibly from hour to hour or even from moment to moment. Every price level is, for its particular time, the point at which the supply and the demand arrive at an equilibrium. Doubtless many of the buyers' orders have given authority to pay, if necessary, a higher price than is actually paid; and many of the sellers' orders have fixed a lower limit to the selling price than it has actually been necessary to sell at. But the onlooker sees none of these mere possibilities. He observes only bids on one side and offers on the other, and notes that, as the bids are higher, more wheat is offered for sale, or that, as the prices rise, some men drop out of the bidding — and that, as the owners are more anxious to sell and find no buyers, they either stop shouting their wares or accept lower prices. It is obvious to him that higher prices attract more sellers, and lower prices more buyers — that more bidders at the price make the prices higher, and more sellers, the prices lower. And all this is intelligible to him without more knowledge of the

dispositions of either buyers or sellers than is manifest from what he can see and hear. It is evident that each selling broker is trying to sell on the most favorable terms that he can get, and may, in the execution of his orders, shout a series of selling offers that no one accepts, and may possibly before he actually sells have several times lowered his selling terms. The buyers also are trying to buy as cheaply as possible, and may little by little bid up before a purchase is closed. Part of the technique of trading is obviously to offer no better terms than are necessary.

What the outsider may infer. — The onlooker, however, observes only the sellers' offers and the buyers' bids, and has no knowledge of what other offers or bids there may be still to be disclosed. He knows merely that the market price is the price at which are being equated such offers of price and offers of goods as are made, and that there are these actual demand prices against other actual selling prices. He may, indeed, infer that what the different traders on either side have " up their sleeves " will probably determine the direction of the next fluctuation in the market. But he sees only that the market price at any instant is the price that equates the different demands, at their respective prices, with the offered supplies at their respective prices. The actual price at any instant is fixed by the demand bids as they are and the supply offers as they are, and by nothing else — by the actual rather than by the potential facts. When the potential becomes the actual, some other market price may come to be the actual price.

The view of any actual trader. — Something like the foregoing situation exists when two men are bargaining for the sale of a horse. Behind the observed facts something like the same range of hidden facts must be present. The bids of the prospective purchaser are intended to give the scantiest possible information as to how high he will go ; his earlier higgling, indeed, will better indicate how low he thinks the owner of the horse may be induced to sell. Each of the traders is shrewd to mislead the other as to his own limit.

But evidently there is a limit — a point beyond which the bidder will not go in buying the horse, as there is also a

lower limit to what the owner will sell for — though, often enough, neither of these limits may be precisely and definitely in the minds of the respective traders. Not only, then, is it true that neither trader in the horse trade knows the other's limit, and that none of the bidders in the wheat market knows the other's limits, and that the observer cannot know any of the limits, but it is in addition true that any actual buyer or seller may never come under the necessity of determining how high, as buyer, or how low, as seller, he would if necessary go, but only that he will at least go as far in his particular direction as he finds actually necessary for his trade. Limits in such cases, none the less, there inevitably are; as such, they mark the bounds within which the trade must take place, if it takes place at all.

The economist's view. — We are not yet prepared to analyze the process by which the buyer arrives at his upper limit of demand, his maximum paying price, or the process by which the seller determines his lower limit, his minimum selling price, the price at which he would rather retain the property than accept the money. For the time being, it must suffice to assume that both of these limits exist.

Assuming, then, these limits, the economist has more to do in analyzing the process by which a market price is arrived at than the mere onlooker at a trade or an auction or a market is concerned to do or is in a position to do. The observer looks at the case purely from the outside — sees it objectively — as a mere spectacle, and finds no difficulty in understanding it as mere objective spectacle. Price for him is the actual adjusting point of the demand offers on the one side with the commodity offers on the other side — the equating point between demand and supply. The case is even simpler for him than a football scrimmage — not much more puzzling, indeed, than the level of the scales, or of two connected reservoirs of water, or the adjustment of a row of marbles in a tilted dish.

But we, as economists, have, in addition, to concern ourselves with the psychology of bargaining and with the influences that the different traders' limits have on the method by which the market equilibrium is reached or is disturbed.

For the purposes of Economics, then, we go further than the onlooker goes or can go; we undertake the analysis under the assumption of a range of facts which must exist, but which are not seen by any outsider or, in their totality, by any one of the agents in the market process — a prodigality of knowledge rivaling the inside information of the novelist and almost matching his omniscience. We have to adopt the point of view of each of the different agents in the process rather than that of the mere observer. Nor is this change in point of view to be avoided; for the facts which are not seen are alone adequate to explain the facts which are seen, the process as it takes place. And later still, as the final step in the problem, we shall meet the necessity of examining the process by which these maximum demand prices and these minimum supply prices are arrived at. For the present, however, we are fortunate in having merely to assume them. But note again that we assume nothing that is unreal or gratuitous, but only a specific situation, in order to arrive at a definite analysis. As economists we assume only the very facts that the traders are doing their best to guess at — a range of actual conditions, which, as actual, the traders are conjecturing as best they can.

Price adjustment at its simplest: Unreserved supply. — Market price presents itself as merely the equilibrium point between the money demand for a given article and the market supply of that article. We shall, therefore, best approach this problem of market price upon the assumption, first, of a given demand and of a given supply, without inquiring why or whence is the demand, or what forces have determined the supply.

Suppose, then, that A is the possessor of a hat which he will sell for what he can get, and that X has $5 which he is willing to pay for the hat rather than go without it. Evidently the price may be $5 or it may be anything less. The precise terms of the actual trade will be determined solely by the skill and guile of the traders. Whatever A gets is so much for him of sheer gain; and whatever less than $5 X pays is, in a sense, so much gain for him.

But now if, together with X with his maximum paying disposition of $5, there be Y with a maximum bid of $4, the lower level at which the price can go is fixed at $4 — at something, indeed, a little more than $4, since only by so paying can X be certain of getting the hat as against Y. The seller A, taking only that which the bidding is sure to give him if he allows the bidding to work itself out to the utmost — is safe to get as much as $4. But between this point and the maximum possible price there is still room for the contest of bargaining to fix the price; $4.01 or $4.99 may equally well be the point of adjustment — anything more than $4 and not exceeding $5.

Suppose now that four hats identical in quality are offered for sale at whatever they will bring and that the maximum demand prices are $5, $4, $3, $2, $1; the competition among those buyers fixes the price at from $2 as the maximum to anything more than $1. When the bidding passes beyond $1, one buyer drops out — evidently because, if he must pay more than $1 for a hat, he would rather make some other use of his money. Since there are only four hats for sale, the price must be high enough to exclude one of the five bidders — must be above $1 — and yet low enough to find buyers for the whole supply — must not be above $2. Within these limits, the contest of bargaining, the higgling process between buyers and sellers, fixes the actual market price.

And note now that it would not at all affect the result if these different demands, instead of attaching to different men, represented the falling disposition of one man to invest in hats. The first hat he wants at not over $5. If you are going to sell him a second, the price low enough for this will have to be not more than $4. True, you might have made him believe you had only one hat and have sold this at $5, and later have sold him a second at $4 or at $3^{+} — just as at an auction, when each sale is a separate sale, one man may buy several items of the same thing at several different prices. So again, if there were different bidders, separate trades and prices might conceivably be made with each separate man. But, if it be assumed that there is to result a one-price market, the price on all the supply must be low enough to market all of it, and all items will, by assumption, sell at the same price. So it is not

true that two hats could be sold at a price of \$4.50 each, $\frac{5+4}{2}$. Even with a single bidder this could not be the case, were it true that he had the choice to stop with only one item purchased—if, that is to say, the sale is per hat rather than per pair of hats. This second hat he wants only to the extent of being willing to pay \$4 for it. At the price of \$4.50 he will prefer to buy only one; or, if to get one, he were compelled to buy two at \$4.50, he would rather resell one than retain it at this price: he would even accept a price as low as \$4+.

Supply with reservation prices. — But now we introduce a modification affecting the supply side of the situation. So far the hats have been for sale at *whatever they will bring*. But suppose now that each owner has his minimum selling price. Formerly there were prices at which the buyers would rather keep their money than to buy hats; now the sellers also have prices at which they would rather keep the hats than to have the money. Each owner of a hat has a condition attached to his offer of sale — a *proviso* as to the least that he will take. One owner will not sell unless he can get \$1; another unless he can get \$2; another unless he can get \$3; and the fourth unless he can get \$4.

It is evident, then, that while the buyers have the same bidding prices as before, these bidders face entirely changed conditions of supply. As the buyers still have limits to their bids of money for hats, so now the sellers have limits to their bids of hats for money. The buyers, each of whom will keep his money unless he can buy at a certain price, now meet sellers each of whom will refuse to trade unless he can get a certain price. Summarized, the situation is as follows:

B_1's limit of dollars for one hat is 5	S_1's limit for hats is one hat for \$4
B_2's limit of dollars for one hat is 4	S_2's limit for hats is one hat for \$3
B_3's limit of dollars for one hat is 3	S_3's limit for hats is one hat for \$2
B_4's limit of dollars for one hat is 2	S_4's limit for hats is one hat for \$1
B_5's limit of dollars for one hat is 1	

Under these conditions what will the price be?

At a price of \$1, only one item of supply will be for sale; while all the bidders will be disposed to buy. The price will, therefore, have

to be higher. At $4 there will be four sellers and only two buyers. But at $3 there will be three sellers and three buyers. The price will, therefore, be $3, since no one willing to sell at this price fails of selling, and no one willing to pay this price fails of buying. It is a stable equilibrium.[1]

Another view of reservation prices. — The foregoing is the usual method of expressing and of solving problems of this sort — a method of cut and try in the location of the equilibrium point. A better method, however, is disclosed through a further analysis:

In any market where owners of goods will sell only if they can "get their price," and owners of money buy only if they can "get their money's worth," it is evident that the men on both sides of

[1] **Note on Graphs.** — Represented graphically, the price is the point of intersection of the demand with the supply curve, the demand curve being plotted as falling from the left of the page to the right and the supply curve as rising from the left to the right. Rising prices are indicated on the vertical line upward, increasing quantities on the horizontal line to the right. The foregoing problem would be represented graphically as in figure (1) opposite.

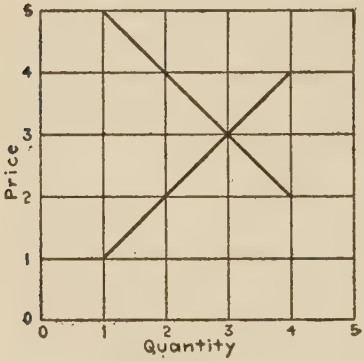


Fig. 1.

The demand curve may also be interpreted to report the volume of supply marketable at different prices, *e.g.*, one article at 5, 2 at 4, 4 at 2. So the supply curve may report the volume of goods obtainable at different prices, *e.g.*, one at 1, 2 at 2, 4 at 4.

Thus the statement that the demand for a good has increased may rightly report (*a*) that there are the same number of bidders as formerly, but each with a higher price bid; (*b*) that there are more bidders than formerly at the different prices. But the statement cannot rightly mean either (*a*) that because of lower prices more goods may be sold, or (*b*) that the mere needs or desires for goods are now greater.

Likewise the supply curve may change to mean (*a*) that the same number of goods are offered at different reservation prices, or (*b*) that changed numbers of goods are offered at the different price

the market must have made an appraisal of the thing *owned* relatively to the thing *offered*. This fact points to the similarity

levels. Thus the different demand curves in figure (2) express differences of paying dispositions with the same number of bids. With the higher bids, the curve moves upward. Likewise the

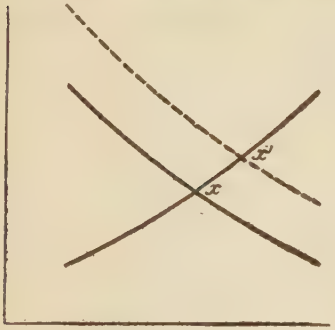


FIG. 2.

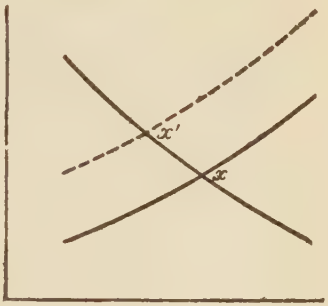


FIG. 3.

different supply curves in figure (3) indicate the different reservation prices attaching to the same number of items of supply. With higher reservation prices the curve moves upward.

But changes in the number of demands at the respective levels of price are indicated by the movement of the demand curve to the right or the left. Likewise changes in the number of goods for sale at the respective levels of price are indicated by the movement of the supply curve to the right or left; see figures (4) and (5).

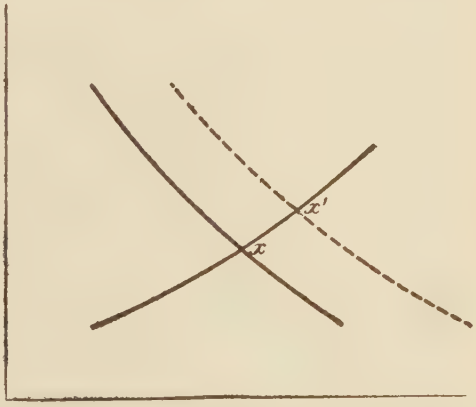


FIG. 4.

It is worth noting also that combining the demand schedules of several different men may not merely move the demand curve to

between the demand and the supply side of any particular exchange; the owners of hats may be thought of as having either a supply of hats or a demand for money, — the owners of money as having either a demand for hats or a supply of money. Each side has things for exchange, with limits on exchange expressed in the other thing.

Because of this similarity it is possible to combine the buyers and

the right, but must greatly change its inclination. For example: the bidding disposition of one individual of say 5, 4, 3, 2, will be expressed in a curve falling at an inclination of 45 degrees. Combining four schedules of the same inclination gives an aggregate demand of 5, 5, 5, 5, 4, 4, 4, 4, 3, 3, 3, 3, 2, 2, 2, 2; the four curves unite into a wholly different curve. See figure (6). This combined curve reports a high degree of elasticity in purchases. The more different purchases of a given paying disposition the more demands will be uncovered by a given fall in price, and the less rapidly the price will suffer with expanding supplies of goods. (Parallel reasonings apply to the supply side of the price equation.)

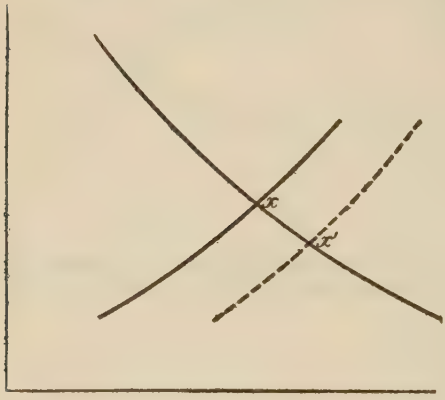


Fig. 5.

Generalizing, then, the language of plotting: With stationary supply, the demand curve moving up or to the right must mean higher prices; moving to the left or down, lower prices.

With stationary demand, the supply curve moving up or to the left means higher prices; moving to the right or down, lower prices.

With both curves moving, the possible combinations and the different price adjustments are indefinitely numerous.

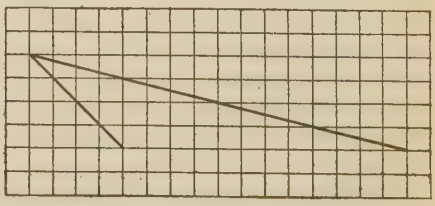


Fig. 6.

sellers' money estimates of hats into one schedule which will express for each man the relation for him between money and hats. That is:

Those who have Hats	Those who have Money	
	B_1	estimates 5 of money as equal to 1 hat
	B_2	estimates 4 of money as equal to 1 hat
S_1		estimates 4 of money as equal to 1 hat
	B_3	estimates 3 of money as equal to 1 hat
S_2		estimates 3 of money as equal to 1 hat
	B_4	estimates 2 of money as equal to 1 hat
S_3		estimates 2 of money as equal to 1 hat
	B_5	estimates 1 of money as equal to 1 hat
S_4		estimates 1 of money as equal to 1 hat

Those who esteem hats the most highly, and have purchasing power either in the form of money or of hats, will be the owners of the hats after the exchange. And since there are four hats in the market, the price must be high enough to exclude all but four of the men. Counting down the schedule discloses the price to be three. B_1 and B_2 and B_3 each give \$3 for a hat, and S_2 and S_3 and S_4 each sell a hat for \$3. S_1 may be said to have thought too much of hats or too little of dollars to make the exchange, and B_4 and B_5 may be said to have thought too little of hats or too much of dollars to make the exchange. It is also evident that B_1 and B_2 bought for less money than they were willing to pay, and that S_3 and S_4 sold for more money than the least that they would accept. These differentials between what one would sell for or buy for if he had to, and what he actually has to buy for or sell for, are called respectively *buyers' and sellers' surpluses.*

It is thus evident that if we decide to regard the money side of the situation as demand for hats, and the hat side of the situation, not as demand for money, but only as supply of hats, we must recognize the holders of hats as themselves having demands for hats. Each seller plays in fact two rôles. If he had not a hat, he would be ready to buy one at anything below his reservation limit. Or selling at above his limit he should logically buy again if the price falls as low as his limit. The case is, then, not one of willingness to sell at any price, but is rather like that of an auction where goods purport to be sold without reservation, but where, in fact, the seller's

own demands are represented by an authorized bidder-in who stands out in the crowd. These reservation prices ought then to rank as within the demand column. Transferring these reservation prices so as to appear as demands, our problem reduces itself to the simple type of 4 items of goods offered for sale at whatever they may bring as over against the original demand of 5, 4, 3, 2, 1 of buyers' maxima plus the 1, 2, 3, and 4 of sellers' minima — a total demand of 5, 4 4, 3 3, 2 2, 1 1. Over against this are the four items of goods for sale without limitation of any sort. The price is, of course, as before, 3.

Utility in relation to money demand. — The relation between the utility of any good and the disposition to offer a price for it will be fully considered in a later chapter (VII). At present, it suffices to note that, when anything is high in price, relatively little of it can be sold. It does not follow, however, that with increasing plenty the consumption of any particular good can be enlarged without limit. Apples sometimes rot upon the ground or in the cellar because we have more than we want; that is to say, useful things may exist in such abundance as to have no value; you cannot sell them or even give them away. Water, for example, may be worth nothing — not that any particular amount of water has become less capable of satisfying a human need, but because the supply of water outruns the total need. Some part of the total stock is thus absolutely without utility. This is simply another manner of saying that human desires and needs are not infinite in any particular direction; and this again means simply that needs and desires become less intense with partial satisfaction. One does not ordinarily care as much for a second glass of water as for the first. Were this not true, our work could bring us no great good, eating would leave us always hungry, and our wealth afford us little comfort or content. The same principle is illustrated in our daily expenditures, and explains how we come to make them as we do. No one applies his entire income to the purchase of food or shelter. Food is the primary necessity, but clothing is more acutely required than is a second dinner. We supply our wants in the order of their intensities. When you have purchased yourself a reasonably large wardrobe, the fact that you make no further purchases of this sort does not indicate that you have no further desire for clothing, but only that you have a stronger desire for something else. It is a peculiar and exasperating fact about a dollar that you can spend it only once. To buy one thing is to go without some other, to sacrifice an alternative purchase. You must choose. Choosing, you follow the line of the

smaller sacrifice. So the purchase of apples at ten cents each would mean to you and to me the lack of other things that we desire more intensely than apples.

Margins and marginality. — Margins of one sort or another are present in almost all sorts of economic relations. Where the items of supply and of demand are many there is a marginal buyer — the man who is upon the point of refusing to buy if the price shall rise — the man whose demand was barely uncovered by the last fall in price; and there is always a marginal excluded buyer — the man who does not buy, but will buy if the price goes one jot lower. Similarly, there is the marginal seller, whose reservation price is barely covered by the market price; and the excluded marginal seller, who nibbles at the price bait, but will not take it until something better is offered — that man nearest to selling, who yet does not sell.

So, again, we speak of the marginal item of goods offered or sold, or of the marginal item of goods bought, meaning commonly the item sold by the marginal seller or bought by the marginal buyer. In the illustrative problem given on page 47, with the market price settling at 3, there was a marginal buyer at 3, a marginal seller at 3, and a marginal item sold at 3, or bought at 3. So, again, at any given price for any given product, there are lands barely worth cultivating for that product; these are the marginal lands in that use. And similarly there are marginal tools and machines. So, at any given price for products, there are marginal employers and marginal businesses — cases where any fall in price or any rise in the cost of production will diminish or suspend the contribution of product. And there are marginal laborers — meaning sometimes the man just on the point of abandoning an employment if the wages fall, or, again, meaning the laborers of any grade employed by a marginal employer.

And there are likewise the marginal items of land or of borrowed capital funds, as there are marginal borrowers and lenders of each.

Note on the marginal analysis. — This manner of market analysis especially characteristic of the Austrian school of economic doctrine has, under the name of the marginal method, now established itself among practically all economists, — although there remain different views enough of the possible purposes which this analysis may serve. It is not, however, quite true to the spirit of the analysis to say that it leaves no room for the process of market higgling. The doctrine at its logical extreme assumes that, as the

items of demand become more numerous, the margin interval within which the higgling process may be operative is constantly reduced. A sufficiently minute gradation of both offer and demand is assumed — so near an approach to infinitesimals — as to justify the treatment of the selling price as accurately a marginal price for both demand and supply. Admitting all the necessary attendant conditions, namely, that all the commodities are of equal desirability, all the competitors in the market simultaneously, and "that the buyers and sellers make no mistakes about the actual state of the market such as would prevent them from really pursuing their egoistic interest"[1] — assuming, in short, a perfectly frictionless market — this may be admitted as an accurate account, descriptively, of the market process. But it is another matter to assert that the point of adjustment expresses marginal utilities, or measures them, or is measured by them. It is still another matter to assert that these marginal traders are, as against the opposing in-pressing volumes of commodity and of purchasing power, the causal facts determining the ultimate price adjustment. It is yet even more questionable to assert that, while the market price coincides with the price limits of both marginal traders, the price is invariably determined by the price limit of only one — the buyer. All these questions really resolve themselves into the one great question — What are the causal forces in the market adjustment?

But, at any rate, it should now be clear that the ultimate forces in any problem of price present themselves in the form of a supply of goods which are to be equated against a volume of money demand, and that the price is the point of adjustment between these two opposing volumes — the point at which the two sides of the market equation are brought to an equilibrium. It follows that the market price is not an average of all the demand prices, or of all the supply prices, or of all the demand and the supply prices together; the adjustment is really at the marginal, rather than at the average, point. Averages have, indeed, nothing to do with the case. The margins, however, are the points *at* which, and not *by* which, the price is fixed; all items of supply and all items of demand are, actually or potentially, equally causes in the adjustment.

It has also been shown that the determination of price is to be traced not more to supply than to demand or to demand

[1] Böhm-Bawerk, *Positive Theory of Capital*, p. 204.

than to supply; that with the demand taken as fixed, price changes with every change in the supply, and that with the supply taken as fixed, price changes with every change in the demand; that supply means all of the goods there are for sale at any price, demand, all of the price-paying dispositions directed toward the supply; and that the reservation prices of the sellers are, in ultimate analysis, demands, and are as important to the fixation of price, and important in precisely the same way, as are the price-paying dispositions of the seekers for goods.

But the present chapter has taken for granted an existing volume of demand — inclusive of the demands of both buyers and sellers — and an existing volume of goods as supply, making scant attempt to explain the demands and making no attempt to explain the supply. Logically, therefore, these two tasks await us — an examination of the relation of needs and desires to demand, and of cost of production to supply. We shall begin with cost of production and supply.

The next chapter will, then, show that cost of production bears on market price through affecting supply, and in no other way; that with goods susceptible of changes in supply, cost of production is the key to these changes, and that only as the explanation of supply, and in the sense adapted to serve as such explanation, does cost of production concern the economist; that therefore it is cost in the competitive sense solely and in price terms only that can signify in the analysis of the price problem — cost to the hiring entrepreneur and not to the employed laborer — cost in the sense of expenditure and financial sacrifice rather than of pain or discomfort or wear of life; that, as the limit on supply, and as compensated in the forthcoming of product saleable at a price, cost of production must include and express, in terms of a price total, all that the entrepreneur computes as impediment or resistance in his process of production; that the cost computation must stand as a purely personal and individual computation; that, as the cost computation is the computation of an entrepreneur, it must express and report his methods, processes, and decisions — must declare the indemnity or compensation necessary to obtain from him his product — and must therefore, include, as resistances to be overcome by the price of the product, (1) all expected pains, disagreeablenesses, and dangers in the process, at those prices at which, as resistances,

they function; (2) all prospective expenditures; (3) such displaced alternative gains as actually bear upon the case; (4) the entrepreneur's opposing disposition to consume his resources rather than to invest them in the line of production under examination; (5) all hazards or risks as he actually estimates them, or has to pay to be protected from them; and (6) all taxes or other regular or casual burdens imposed upon him by the undertaking.

It will thus appear that alternative profits are costs in any given undertaking — are *necessary profits* if the undertaking is to continue; that costs are mostly due to the resisting appeal of the demands for other things; that costs are the precise analogue, in the production of goods, to the seller's refusal prices in the marketing of goods; that ordinarily these costs explain these refusal prices; and that therefore it is a purely fictitious issue to argue which is the more important — demand or supply — in the fixation of price.

And finally it will be shown that, in last analysis, all cases of marginality in production are personal margins and not margins of agents or instruments; that there are an indefinite number of all three sorts; but that instruments and agents are marginal only relatively to the entrepreneur who employs them; and that no margin of any sort is relevant to the determination of market price excepting as bearing in some way upon the limitation of the supply.

CHAPTER VI

SUPPLY DETERMINED BY COST OF PRODUCTION

How price affects purchases. — It is a commonplace fact that if you are going to sell things at a very high price you will not sell many of them. When bananas are ten cents each, most people purchase in limited quantities. If I am exceedingly hungry for bananas, I may buy one at this price. If the supply increases and the price falls, my desires express themselves in larger purchases. While neither my need nor my price-paying disposition has expanded, new conditions have arisen in which banana appetites of lower intensity come into play, much as one may imagine to himself the gradual subsidence of a lake or sea, and the appearance, one after another, of reefs and bars and islands.

Price with fixed supply: Cost and supply. — It is not always, however, the case that the supply of products is a changeable supply. It occasionally happens that the volume of goods of a particular kind is entirely fixed and definite. There are some things, that is to say, the supply of which is beyond the possibility of enlargement — like 18th century furniture, the old masters, grandfathers' clocks, and the like. And some other things there are, the supply of which changes, but not in response to human decision or effort, — meteorological stones, for example. The first step in the analysis of market price assumes, therefore, a fixed supply. But cases of this sort are not common, and present little difficulty in analysis, and have already received sufficient attention. Monopolistic limitations of supply are also readily disposed of from the point of view of theory. It suffices at present to grasp the truth of Senior's statement: "Any other cause limiting supply is just as efficient a cause of value in an article as the necessity of labor in its produc-

tion. And, in fact, if all the commodities used by man were supplied by nature without any interference whatever of human labor, but were supplied in precisely the same amounts that they now are, there is no reason to suppose either that they would cease to be valuable or would exchange at any other than the present proportions."[1] Cost of production, that is to say, bears upon market price and fixes market price in the sense solely, and in the degree, that it serves to determine or modify the supply side of the value equation. Supply affects price. Cost of production limits supply. Our problem, then, is to analyze the nature of cost of production and to show the manner of its bearing on supply.

Specialization and Cost: The fundamental principle. — We have already noted that in our actual pecuniary form of society division of labor is possible only on terms of the possible exchange of products. But how does this division of labor establish itself? On what basis does each man select for himself a particular line of production? And how far does he carry production in this line? And why does he stop? Viewed in the large, cost of production is one aspect of the general division of labor — the doing of one thing on terms of foregoing the doing of another.

In human affairs as in the inanimate world, it may be said that force always follows the line of least resistance. Water seeking an outlet breaks through the weakest point in the barrier. The chain gives way at its weakest link. When two opposing forces meet, the weaker is overbalanced. The line of least resistance includes also the line of the strongest pull. The stronger attraction prevails. So men, in choosing between different pains or discomforts, refuse the greater, submitting to the less; in choosing between different attractions, they select the greater, following always the line of least motive resistance. That is to say, the line of human action is the line of least sacrifice. Accurately speaking, one cannot act contrary to his choice. Men always do the thing which they prefer. If the thing done were not the preferred thing, another thing would be done.

[1] Senior, *Political Economy*, 6th edition, London, p. 24.

The choice may be between several evils; in that case the choice of the least is none the less a choice.

Least sacrifice. — We are in substance seeking a formula for human choices in the field of production. Here choice follows the psychological law valid for all human activity: *men follow the line of least sacrifice.* To say merely that each man seeks always the maximum of satisfaction of his wants is not adequate for all cases. Men commonly dislike work; at all events some of them do; and all men do at some nearer or more distant fatigue limit. How set off the utilities of product against the irksomeness of the productive process? And what shall be said of the men who are submitting to the pains of work in order to avoid the pains of unsatisfied want? Only where, between two lines of agreeable work, one chooses that line which in process and product affords the larger satisfaction of wants is the formula of *the maximizing of pleasure* adequate. But the formula of *the minimizing of sacrifice* is everywhere sufficiently inclusive. For the man who works because he finds work pleasant, it would be a sacrifice to refrain from work; he chooses that line of work which he prefers, in view both of the pleasures of the activity and of the accompanying compensations in productiveness. He ceases to work at the point where continuance would be the greater sacrifice. The man to whom all effort is irksome chooses that line of activity which, in view both of the quality of the work and of its compensation, involves the smallest sacrifice. For him who prefers idleness to activity, activity would mean the larger sacrifice.

This principle of the minimizing of sacrifice is, then, the generalization for which we are seeking. In substance it is a particular application of a law general in the physical and in the moral world. Men follow their choices. But it is still to be noted that choice is an outcome of a complex of internal and external factors. The man is himself a part of the problem. There are outer inducements, temptations, penalties; there are inner appetites, antagonisms of conscience and sympathy, — hopes, loves, hates, and fears, — all phases of moral, mental, and physical weakness and strength. Out of the combination of these complex and

varying factors results a line of new direction — one of least resistance when all the varying factors are allowed for, humanly speaking, a choice.

Purely as economists we are fortunately free from the necessity of investigating the origin of choices or any of the psychological difficulties surrounding the question. It is sufficient for us that these choices take place as human nature presents itself. Men follow the line of least motive resistance.

Cost in the isolated economy. — But the manner by which different men work out their selection of different specialized lines of gainful activity, and the computations involved in this process, may well be different in differently organized societies.

The isolated individual economy — that of Crusoe, for example, an economy not unlike in principle that of a socialistic or collectivist society — furnishes its peculiar problem of production costs. Crusoe could not rationally produce anything unless its utility overweighed, or at least balanced, both the discomfort of the work applied and the loss of such utilities of recreation as the situation offered. And, within the limits of this first principle, no product could be rationally produced the production of which involved the displacement of a more desirable product. So far then as he planned his work rationally, Crusoe was continually turning his efforts to that undone thing, the doing of which had come to be of leading importance — subject all the while, of course, to the condition that it was worth the labor penalties involved. At a certain point fishing was abandoned for game: More fish were refused in the interests of more game. The game cost fish, or the fish cost game; since the work which would produce either fish or game was applied to game and withdrawn from fish. The limit upon production, the cost barrier, was reached at the first one of two margins, — the margin of effort and of displaced recreation, or the margin of displaced alternative product.

These displacements of possible products, these foregoings of alternative openings, these sacrifices of some second thing in the process of getting some particular thing, are perhaps best indicated under the term *opportunity costs*. To go without fish to get game or to raise wheat upon terms of foregoing the raising of corn may be taken as illustrative of one of the simplest aspects of this doctrine of opportunity cost.

What resistances cost includes. — One of the difficulties in the case is, however, that the term *cost* is not quite satisfactory for all aspects of the doctrine:

Suppose, for example, that a child has been given both a pear and a peach; that some predatory boy tries to seize them; and that the only method of saving either is to drop one, say the pear, in the wayside weeds, and to run for shelter with the peach while the aggressor is picking up the pear: What has the peach cost?

True the peach was a gift. In a certain sense, therefore, it cost nothing. Nevertheless it is retained only on terms of foregoing the pear. The term *cost* seems not quite satisfactorily to cover the case. Perhaps *displacement* or *foregoing* would be preferable.

Or, if one offers you your choice between a ride and an evening at the theater, it is awkward to say that the acceptance of the one is at the cost of the other. Yet the resistance to the taking of the one is the letting go of the other. As in the preceding case, the chosen thing remains a gift. The term cost is here also measurably a misfit: the nature of the resistance is better indicated by some term like displacement or sacrifice or foregone opportunity.

Or, if with a dollar which you have earned you are at choice between buying a book or a pocket knife, and finally buy the book, the resistance overcome is best expressed, not by the labor devoted to the earning of the dollar, and not by the dollar itself, but by the alternative application of the dollar. True it is, in one sense, that the book cost a dollar, because that was the price of it; or you can reasonably say that it cost you a day's labor. But the ultimate significance of the labor of the dollar was in the product which it could be made to achieve for you. The highest cost of the book, the best test or measure of its worth to you, was in the significance of its strongest competitor, the knife. And still, in this case as in the others, some term like displacement or foregone opportunity or sacrifice appeals as the more appropriate for expressing the ultimate fact.

Or, if one's work for a day will produce for him one bushel of wheat or two bushels of corn — these being the productive opportunities at the top of the list — and wheat is chosen, it is possible to say either that the wheat cost a day's labor or that it cost two bushels of corn. But inasmuch as the choice was really between wheat and corn, rather than between wheat and rest or between wheat and recreation, the corn offers the leading resistance and is, therefore, the cost, in the sense of displaced opportunity or foregone fact or sacrifice.

Actually the notion of cost of production as employed in economic usage is made to do duty for all of these cases as well as to include such money outlays, or expenditures, as may also require to be taken into account. Cost of production, that is to say, points in its ultimate significance to the thought of opposition, conflict, hindrance, *resistance.*

Collectivist cost as displaced opportunity. — Parallel to the Crusoe computation of cost of production is the socialistic or collectivist[1] computation. An ideal adjustment of collectivist costs would prescribe, (1) that no product impose sacrifices in the burdens of labor and in the foregone recreation, overbalancing the advantages to be derived from the product; (2) that no product displace a product more desirable than itself. The cost of any product must be found in whichever of these two lines the resistance were the greater.

That form of sacrifice which is expressed in the term *opportunity cost* is, then, an aspect of cost of production especially important both in the isolated and in the collectivist economy. And the doctrine extends more widely than merely to the applications of productive labor. It applies also for all instruments of production. Shall, for example, certain lands of the community be used as orchard lands? What then is the cost of production of the fruit obtained from them? This is to ask what are the counter-attractions in the employment of the land — what does the having of the fruit mean in terms of going without something else. The land being fertile is going to be used for something. The problem of choice lies in the decision between two alternative products — fruit *versus* its strongest competitor. The cost of either product is, then, the displacement of the other — a problem of sacrifice, a foregoing; this is a typical case of opportunity cost. This sort of cost of production is, indeed, the leading cost category for the isolated as for the collectivist analysis.

If, therefore, there be among the collectivist estates land adapted solely to one line of production — mineral lands, for example, or salt marsh, or cranberry swamps, — there may be no alternative productivity of the land to be computed as resistance to the land use. Productivity of the land there is, possibly in a marked degree, but all the costs in the case are to be sought on the side of the labor or

[1] *Collectivism* is a term broader and less definite than either *socialism* or *communism*, and includes the two. It means some sort of general social partnership in economic affairs.

of the machinery or of the raw materials applied. So, when once any sort of machinery for any use is in existence, the cost analysis points not to the labor applied in producing it but to its best alternative use. And even in the forward looking view, when the making of machinery is under consideration, the same analysis probably holds; for, presumably, the advantages from its use, even in its second possible employment, are great enough to outweigh the cost of its construction. And in turn, the original cost of construction may lie, in the larger part or entirely, in the displacement, not of goods for consumption, but of other possible equipment goods.

And in the case of labor, also, the cost in a collectivist society — either socialistic or communistic — would ordinarily be the alternative product of the labor rather than in the labor burden itself. Especially is this likely to be true of the more skilled varieties of labor; up to the point, at least, where the day's-end margin of weariness applies. And even here, the cost is commonly in large measure the displacement of the positive advantages of recreation, rather than solely in the pain significance of further effort. Thus *opportunity cost*, broadly interpreted, applies in greater or less degree to all cases where alternatives of product or of other advantage are open. The line of least resistance in economic productivity is almost inevitably, therefore, in some part or entirely, the line of the strongest pull.

Thus the principle of selection in the working out of the division of labor in a collectivist society is the principle of the line of least sacrifice — the same principle, in fact, that presides over the direction of purchasing power in the market in the individual's choice of what he shall buy.

Competitive costs. — To assert that with most goods the supply is limited through the influence of cost of production is merely another way of saying that we have rarely to do with goods present in fixed and inelastic stocks. Likewise it is a way of asserting that such goods as are forthcoming present themselves with reservation, or refusal, prices attached. And if these be not attached to the products when once they are produced, they are attached as a condition to the continued forthcoming of the products. Costs of production are, therefore, as between producers and consumers, the analogue of reservation prices as between sellers and buyers. And this, in turn, means that cost of production as bearing upon market price points really to cost of

reproduction, to that necessary price-indemnity, for any item or volume of products, below which that production will not be maintained. Our analysis of the fixation of the market price as subjected to the influence of cost of production both parallels and complements, therefore, the earlier price analysis. It was there made clear that market price is neither an average of price offers, nor of supply prices, nor of both together, but is commensurate both with the marginal price offer and the marginal reservation price.

Cost and supply: margins and cost. — Similarly where the market price is influenced by cost of production: the market price tends to be commensurate not with cost of production in general, or in the average, but only with the marginal cost of production. If the price rises, the supply will increase; if the price falls, the supply will diminish. With rising prices new producers with higher costs of production will offer products, or producers already in the market will enlarge their output. The new point of equilibrium between demand and supply will be a point at which the producers at highest cost — or those portions of their product which are highest in cost — are barely indemnified in the selling price. Thus marginal cost of production and market price tend to be identical. But this is not to say that the marginal cost of production fixes or determines the price, but only that it tends to be identical with the price. Equally it tends to be identical with the marginal price offer. It is not the result of either to the exclusion of the other, or of both to the exclusion of other items of demand and supply, but rather the result of the entire supply over against the entire demand. The margins are points *at* which, and not *by* which, the price is determined. For most purposes, indeed, the marginal traders are more nearly results than causes. It is true that their added weight may have moved the price from one margin to another, but the basis upon which they build and to which they add is made up of countless other demands in face of countless other offers.

What the marginal analysis is good for. — And note once again that this is in no sense to deny the important service of the marginal

method. Only by the precise analysis of what is characteristic in marginal relations does the ready and sensitive response of price to the influence either of demand or of supply become intelligible; for only so does a rational and detailed account of the ultimate relations of demand and supply become possible.

And here, also, it is to be admitted that our demand schedules and our supply schedules, as an account of the process of market adjustment, necessarily somewhat oversimplify the concrete phenomena. We assume for the schematic purpose that all the items of supply are of precisely the same quality. We assume a degree of care and accuracy and knowledge on the part of the traders which is not always present even in the wholesale markets. And we assume, as in the earlier price analysis, a one-price market resultant; we assume, that is, a perfect market.

Marginal cost, opportunity, and profit. — How then does the producer for the market compute the costs? And of what elements are his costs made up? And what facts render a producer marginal? Or render any part of his product a marginal product?

The main factors in the computation of costs, and the terminology appropriate to the cost analysis, may be presented in some simple illustrative problems:

Why not study Hebrew? Evidently not that it would be entirely useless, but that something else would be better worth while. What do you intend to do for a living? Why not something else? Nothing else offers equal inducements, all things considered: what is displaced by the chosen occupation is less than its product. And why do you not raise rye exclusively instead of so much wheat? The rye would displace a greater value in wheat than it would render in rye. Why not raise silk in the United States or bananas in Canada? True, either thing could be done were there nothing else to do, but other things pay better. The cost computation especially concerns itself with these other things.

Again: a farmer owns a farm worth $1000, machinery and stock worth $1000, hires a man at $300 for the season, himself works, and gets $1000 for his crop. What is his cost? What his profit? Allow, say, $200 for rent on land

machinery and stock (or for interest upon $2000 of capital, together with the deterioration and upkeep); add $300 for wage outlays. The farmer's remuneration for his own productive effort is the remaining $500 — his profit. But the data are insufficient for determining the cost. We do not know for how much the farmer's own labor should count as cost in the problem.

A carpenter takes the contract for the carpenter work on a building for $1400, works six months himself, and pays his men $800. It costs him $300 to live during the six months. He might have worked by the day, receiving $400 in wages. What is his cost? What his profit? The living expenses are irrelevant either to cost or to profit. Some men live out of their profits as others out of wages or rents or interest — unless, indeed, the living expenses outrun the income. It is in this last case true merely that the wages, or the profits, fail to cover the living expenses. Profits are none the less profits because they are spent or overspent. You would not say that you got no berries because you ate them, or no wages because you spent them. Wages and profits are merely different ways in which human gainful activity gets rewarded. But *wages imply an employer* to pay them. *Profits are the reward of the self-employed worker.* Paying out $800 of wages leaves the contractor $600 for his own labor, supervisory or other. $600 then is his profit. But what was his cost? It was $800 of outlay plus $400 of displaced earnings. His profits, that is to say, are $200 more than his *necessary profits.* Profits are *not* the excess above cost; they divide into *necessary profit* — that which is part of cost — and *unnecessary profit* — that which is a differential above cost. Had the contract price for the work been $1100 instead of $1400, the profit would have been $300, falling $100 below the cost requirement, — $100 short of the minimum profit. It is thus possible to have absolute profit and relative loss — possible, that is to say, to have a profit less than the necessary profit. *Cost of production* takes account of this relative aspect of the enterprise. It *is the necessary indemnity.* And now we are ready for the niceties of the complete and accurate analysis.

The various factors in cost. — Each producer, estimating as best he may the prices which various products will bring, has before him the problem of selecting a particular line of production, or the problem whether or not to remain in his existing line, and the further problem, also, of how to produce most cheaply the product which he elects. Suppose, for example, that he undertakes the production of wheat. He will need seed, fertilizers, labor, and different sorts of production goods — land, machines, tools. He will have taxes to pay, and insurance — excepting so far as he may carry his own risks, — and various minor outlays. He may have to borrow from the bank or from the money lender; in any case he will have to reckon a rate of compensation upon the various portions of his investment for such periods as his enterprise shuts him out of an alternative investment. He may, also, have to include some indemnity for risks that his insurance policies do not cover. And finally, he must compute as a further cost that compensation for his own time and effort below which he cannot afford to remain in this line of production.

And now for a few definitions — together with the repetition of some of the old:

The *entrepreneur* is the independent, unemployed manager; the one who carries the risks and claims the gains of the enterprise.

Compensation for hired labor is *wages* (or salary). Compensation for the entrepreneur is *profit*. The hire for borrowed funds is *interest* in one of its manifestations. The hires for lands and tools and machinery are *rents*. Rents, interest, wages, and such necessary profit as serves merely to indemnify the entrepreneur for entering or continuing the enterprise, are commonly regarded as the main and typical components of the total cost of production to the entrepreneur.

Obviously, however, the rents on his own equipment must be computed as cost; since he could have lent them out for hire, or, selling them, have lent out the price. Thus we include in cost a rental charge (together with upkeep charges) upon the equipment goods of the entrepreneur. Or this same amount may be arrived at through computing an interest charge, a percentage upon the total amount of equipment reduced to a money denominator and regarded as a sum of capital. And another interest charge must

also be computed — a something which has not its alternative statement in terms of rent: whatever outlays the entrepreneur has made have had each its date, early or late, with reference to the time of marketing the product: the interest cost is, therefore, to be computed on these. Likewise the rentals which, by virtue of his undertaking, he has foregone, have to receive each its hypothetical date of maturity and its separate allowance for interest from that date to the date of marketing the product.

A typical cost account. — Thus the cost account against a $3000 normal crop of wheat marketed on Jan. 1, 1911, from a tract of land of 200 acres would look something as follows:

(1)	Rent on 200 acres of land at $3 per acre (or interest upon a $10,000 investment in land at 6% annually) [1]	$600	
(2)	Interest on $600 from Oct. 1, 1910, to Jan. 1, 1911 (it being assumed that the rent would have been due at this date if the land had been rented)	9	
(3)	Rent on machinery and stock (or interest on $2000, total value of same, from April 1, 1910), 8 mos.	80	
(4)	Wages for month of April paid to men May 1st	100	
(5)	Interest on same, 8 months	4	
(6)	Seed and fertilizer as of May 1st	500	
(7)	Interest on same, 7 months	17.50	
(8)	June, July, and Aug., etc. wages	300	
(9)	Interest on same, total	7.50	
(10)	Hail insurance for three months, paid May 1st	50	
(11)	Interest on same, 8 months	2	
(12)	Taxes on land, paid Nov. 1st	100	
(13)	Interest on same, two months	1	
(14)	Repairs and depreciation on machinery and horses as of Jan. 1, 1911	112.25	
(15)	Depreciation of land as of Jan. 1, 1911	100	
	Amount carried forward		$1983.25

[1] There is inaccuracy involved with item (1) and with the similar items, to the extent that the displaced use may be — and generally is — somewhat greater than the *rent* paid out or the *rent* foregone. But these inevitable inaccuracies are cared for under item 23 below — the displaced personal earnings. The computation of aggregate costs does not involve a precise allocation of the separate and specific productivities. Nor indeed, as we shall later see, is such accuracy possible.

	Amount carried forward	$1983.25
(16)	Outlay for hired teams, averaged, as of June 1st	100
(17)	Interest on same for 7 months	3.50
(18)	Rents on hired machinery, etc., paid Sept. 1st	100
(19)	Interest on same, 4 months	1.50
(20)	Threshing bill, Sept. 15	100
(21)	Interest on same, 3½ months	1.75
(22)	Risk by drought, etc., — other than hail	200
(23)	Value of entrepreneur's own time and supervision as of Jan. 1, 1911 (based upon alternative personal earnings purely, perhaps as wage earner, or in no matter what best alternative)	700
	Total	$3190.00

Add also, say, ten dollars for general interest on a varying margin of funds, necessarily kept on hand in the conduct of the business, and not accounted for in the separate and specific interest charges above.

That is to say, the crop which this farmer has marketed at $3000 — and upon which he has actually paid out

$500 of wages during the summer
50 of insurance in May
100 for taxes, Nov. 1st
100 for rented appliances in Aug.
100 for threshing in Sept.,

a total of $850 — has really cost him $3190.00, — $190.00 more than he has sold it for. Looking back upon the question in the light of his present knowledge, he would better have done something else. Looking forward — if this experience seems to point to a similar experience with wheat in the future, and to point also to similarly attractive alternative openings, — he will decide that he would better either abandon or modify the production of wheat. Perhaps his costs on only some part of his total output were too high; perhaps his costs per bushel were too large because his business was too small. But assuming that his methods were the best methods open to him in wheat production, he will more or less radically restrict his output.

The cost computation concerns only the future supply. — Note now that even when the computation of cost of production appears to be a backward-looking computation, it

is only as a basis for a further and forward looking computation. Costs that have been, have no direct bearing upon present price. The supply is as it is, no matter what the costs are now seen to have been. The cost of production that is really and ultimately significant in modifying price is the prospective cost as over against the prospective price. And in most occupations the computation is for a fairly long term — a season, or a succession of years, or even a lifetime. The bearing of cost, such as it is — and however tardy is its working on the volume of supply, — is significant only for such persons as undertake the cost, and for the supply which it affects, and for the period upon which it bears. Prices are influenced by it by virtue of the fact that there are always enough marginal men in any competitive production to bring about a reduction of the supply, if the relative advantages of the industry appear likely to suffer. And there are always men in other industries, near to their respective margins, who will be attracted to any particular industry if its relative advantages appreciably increase.

Cost sums up all resistances under the price denominator. — There is danger, however, that in some cases this principle of opportunity costs may be overemphasized. A cost computation that is adequate and exhaustive must reduce to the price denominator all of the different resistances which bear on the case. If the line of production or the particular item of product under consideration involves an especial degree of hardship, or danger, or ill repute, the necessary indemnity is often appreciably the greater. Pain costs and disrepute costs and danger costs *may* require to be reduced to the common denominator of price, as making part of the total cost expressed in price as a sum of the price resistances. The saloon business, for example, and the business of safe-cracking, probably bring returns out of proportion to the skill and effort invested in them. So some fields of teaching, by their freedom from stress and care and by the interesting quality of the work, may offer remunerations considerably short of proportional to the expenses of preparation and to the ability which they require. These relative advantages, or disadvantages, inasmuch and in so far as they bear upon costs, affect prices in the same way that all other costs affect prices, namely, through influencing the volume of supply.

Which is fundamental to price — cost or demand? — We are now in a position to resolve a famous and long-standing controversy in economic theory: Is price more dependent upon utility than upon cost — upon demand forces than upon supply forces — upon marginal utility than upon marginal cost; or is it equally dependent upon both? It may be truly said that the dependence is equally upon both, that price is the equating point between the two sides of the price equation; but it is still open to urge upon the demand side of the argument that, after all, there could be no motive for production if there were no wants to be satisfied, and that there could be no justification for cost if there were no demand for the product. Surely it must be admitted that human wants are the dynamic facts behind all economic activity. In the main, then, the primacy is with the demand side, although this is not to deny the importance — the secondary importance — of supply; for if there were no limit upon production, no price could attach to the product. The market price, in this view of it, appears to offer a precise analogy to the point of adjustment reached when a coiled spring is pushed: action and reaction are equal, but the resistance is merely another aspect of the original pressure, a reflex from it. The push is still the primary fact. Where the point of new adjustment is found depends upon the strength of the push.

But the advocate of the supply side of the argument emphasizes cost of production, and asks whether the point is not equally a matter of the strength of the spring. Without questioning the fact that the original force in economic production and in market adjustments is this fact of human desire, one may still deny that, in the actual determination of price, demand is of more importance than supply. True it is that useful things external to man are objects of his desire; they furnish service, afford satisfaction, or protect from discomfort. If sacrifice is a condition to their enjoyment, they command sacrifice. But it still stands as true that things have not prices proportionate to their utilities. Price comes about only when there is resistance to be overcome; when there is a disparity between desires and the

means to their satisfaction. Is not value, then, or price, more nearly a measure of the scarcity of things than of their usefulness? Value, or price, appears to emerge in human life only when obstacles and difficulties are found in the path of enjoyment; when satisfactions are saddled with burdens; when needs impose something to be avoided. We are richer in our rainfalls than in our irrigation ditches; and we should be still better off were these rainfalls not so scant. Value arises when things cost. Human interests are forwarded by plenty rather than by scarcity — are antagonistic to value rather than in harmony with it. Economic progress, therefore, must express itself in successive reductions of the sacrifices necessary to the satisfaction of desire, in the approach of commodities to the margin where value and price disappear — in short, in the cheapening of things. A short crop commonly sells for more than an abundant crop. The destruction of the shipload of spices was a creation of value — not of spices. That water or air should become so valuable as to command a price would mean that society had essentially lost rather than gained in weal. Value, therefore, appears to connote sacrifice rather than well-being.

Opposing demands are bases of costs. — But no matter which side of this controversy shall seem to present the more appealing case, the whole issue must be declared to be merely apparent and ultimately meaningless. Recalling the fact that in the analysis of demand and supply the marginal price-demand was a case of indifference between two competing marginal utilities, and that the reservation price of the seller was itself an expression of demand — the point at which, with a falling price, the thing in hand was equal in desirability to something else obtainable through that price — the case begins to look like an inquiry whether the demands of buyers are more important to price than are the demands of sellers.

But with the introduction of cost-of-production influences, and with cost of production correctly interpreted, the last necessary step in the argument is taken. So far as it is not direct outlay, the cost or refusal price is, in the main, the resisting appeal of competing opportunities. The direct

outlays, also, commonly have alternative openings for gain. Resolving this refusal price into the compensations offered by other employments, or into the advantages of alternative activities, price is recognized as the equating point between opposing demands. The cost computation of the entrepreneur is merely his way of arriving at a decision as to what commodity he shall best produce. It is a choice as to which demand offers the largest inducement. Marginality in production means that an equality of advantages exists between the two most attractive alternatives.

Thus viewed, the supply of goods of any one kind appears as a flow of items with definite, though changing, reservation limits attached to their forthcoming. These limits are in the main given by the price demand for other products; that is to say, the various costs of the entrepreneur are mostly to be explained as the wages imposed by other lines of production — the rents obtainable in other fields of enterprise, the interest charge which capital commands because of the other enterprises in which it can invest. All along the line, cost for one thing traces back to demand for other things; and even for instruments of production that have only one line of application, the cost to any one entrepreneur is explained by the competing demands of other entrepreneurs. There is, therefore, no issue between demand and cost, simply because cost mostly resolves itself into competing and resisting demands. It was indeed partly for the purpose of this particular problem that some pages back the reservation prices of the sellers were shown to be themselves demands.

We now see that commonly and mainly the refusal prices of products, the costs, are likewise demand facts. But they are none the less costs. The difficulty with the older view of cost of production was in its attempt to reduce all costs to labor or to effort, — to assume, for example, that value has its basis solely in one sort of sacrifice, labor — and that the displacement of alternative products has no significance as cost. Thus, for example, it was believed that the rent of land, land not tracing its existence to labor, could have no place in cost. But more of this later.

Economic influences focus in cost. — We are now prepared to grasp the truth that cost of production, so far from being a phenomenon simple, ultimate, and free from difficulty, is rather to be regarded as the point at which a bewildering complexity of influences are summed up in one resultant; it is the effect and expression of many contributory causes. To the entrepreneur, the method of computation is, indeed, simple enough, even though the weight to be given to each of the different elements in the problem may be far from exact. Doubtless many of the data upon which he must act are rather estimates than precise facts. For example, many of his costs are, at the inception of his undertaking, not determinate. The various markets in which he must hire or buy are fluctuating in their prices. And the price at which he will finally market his product is uncertain. He has to guess as best he can. Rain and drought and moth and rust and countless other contingencies — changed rates of interest, strikes, blockades, financial disturbances — are all possibilities. His alternative lines of activity, also, are subject to like uncertainties. He estimates and surmises and hazards where he cannot know, and as a sort of general summary, setting many things over against many others, he decides upon his line of largest net advantage, making often not better than a rough guess, but, none the less, a decision.

But nevertheless for him the case is relatively simple. He takes wages as he finds them, rents as the market presents them, interest rates as he must pay them, and so on, and gets what gain he can. It is no part of his problem to investigate the causes of the prices attaching to the different items of his cost outlay or attaching to his alternative lines of production. These are as they are; and as it does not lie with him to change them, but only to adjust himself to them, he would merely waste his energies as entrepreneur — becoming mere scientist — were he to set himself curiously to searching out the underlying explanations for what he finds to be unalterable. His view of the facts is adequate only for the particular problem that he has to face. Cost of production, as he sees it, explains the fact that he pro-

duces a certain line of commodities, and the degree of his production, only on terms of taking for granted all the other facts and influences as the data for his particular problem.

Cost in economic analysis. — The economist, on the other hand, must recognize that marginal cost of production is important to the price problem only as the meeting and the adjusting point of a wide and constantly changing variety of influences. There are changes in the desires and needs for the particular commodity, for example, wheat; changes in the desires for the other products competing to attract the purchasing power of all the different purchasers; changes in the technique of production of all the different competing products; changes in the sources of supply of all the different raw materials — fuel getting cheaper or dearer, mines approaching exhaustion, new deposits discovered, new supplies made accessible by new lines of transportation, and made dearer or cheaper through dearer or cheaper transportation — a great moving equilibrium of diverse change. Marginal cost of production is for each particular class of goods the summing up and the manifestation, *as a price total*, of all these different influences focusing upon the particular good in question. The flexibility of cost — its sensitive response to each and all of the changes in the conditions or in the forces involved in the situation — makes cost as the focusing point of all of these, the strategic point from which all of these are most effectively studied. But it does not explain, excepting in the sense that, as looked at from the point of view of the entrepreneur, it explains the degree and the direction of his activity.

It is possible that the fundamental principle of cost of production may receive some illumination through a slight change in point of view:

How much an individual, or any society as an aggregate, will produce of any one good, out of the aggregate of goods produced, depends, in some part, upon the intensity and the extent of the desire for other things. Land or labor or machines may be so much the less plenty for some products as they are the more needed for other products. The relative difficulty of producing things is fundamentally conditioned upon the relative equipment of human pro-

ductive power, the amount and the kind of labor efficiency together with the amount and the kind of external equipment. To say that the value of a commodity is high because the cost of producing it is high, still leaves it to be explained why this cost is high. In a competitive-entrepreneur society like our own, where products have market prices, and where the various agents and instruments of production have their various respective rewards in wages, or rents, or the like, it is the comparative scarcity of these productive efficiencies — all the while, of course, relatively to the disposition to pay for the products — that ultimately explains how all these different productive factors function as bases of cost of production in the competitive productive process. That is to say, — as will later more fully appear, — cost of production, as an explanation of price, amounts to nothing better than an explanation of the price of the product by the prices of the things that go to produce it. These underlying and contributing items of price call, also, each severally, for its explanation. The various items in the total cost of production are the price form and guise in which these ultimate facts of human need and of human activity and of environmental equipment present and manifest themselves to the producer of goods for the market.

It may, indeed, be rightly argued that the present comparative scarcity of these productive efficiencies is the result of preceding market adjustments — that these productive efficiencies are themselves, many of them, merely earlier produced goods, and that since each single piece of equipment, or each item of labor, already stands in a price relation to every other piece of equipment or item of labor, it is therefore no adequate explanation of cost to appeal to the existing supply of equipment and of labor as ultimate. And it must be granted that it is not an ultimate explanation excepting for the purposes for which the value theorist uses it. The objection as urged points to the limitations of value, or price, theory rather than to the inadequacy of the present analysis for the purposes of the price and value problem. In the study of the market process, the economist is interested in those forces at work tending to establish an equilibrium of price *under given conditions*. These conditions are made up of certain situation facts which the value theorist treats as fundamental. This situation, within which the present market forces are at work and of which the market is itself a part, might be accounted for in terms of how it developed. But such a task, while perhaps not impossible, and while clearly of much significance to the economist, is not the work of the value

theorist. And until the task is accomplished, he must content himself with assuming the conditions as they opaquely are, and with treating as fundamental the situation as it presents itself.

Who and what are marginal? — Recalling that our present problem is the explanation of the volume of the supply of any commodity, that the supply of many sorts of goods cannot be increased, and that cost of production interests us solely in the sense and to the degree that it explains the volume of supply, we return to the analysis of the influences which set a limit to the amount of goods produced by each entrepreneur. It is in this aspect that marginality in production becomes important.

We have already noted that when the price of any commodity rises, more of it tends to be produced — if, of course, further production is possible. No rise, however, is ever great enough to divert all industry into any particular field. Nor will any moderate fall in the price of any commodity drive out all of the producers into other industries. Some of the producers will go, it is true, but others will stay. Ordinarily, however, those that stay will somewhat reduce their output. Some undertakings, that is to say, are marginal as wholes — are making only enough to keep them going; while others are variously distant from the margin of abandonment. All, however, must be recognized as marginal as to some portion of their product.

It is implied in the foregoing that, at any given price of product, some of the men and the lands and the machines employed in any enterprise are barely paying enough to justify their employment, and that, with every employed agent or instrument, there must be a point where further product will not justify the further cost involved in obtaining it. This is merely another way of saying that in many enterprises there are marginal factors in production, and that every factor must be marginal at some point for some fraction of the product possible from it.

Several questions, therefore, present themselves for examination. What influences render an enterprise or an entrepreneur marginal? When and why do some portions of

the product of the non-marginal enterprise become marginal? Why and when do the various employed factors reach each its marginal limit of use? Is marginality ultimately an instrument margin or a personal margin? And, finally, what is the relation of marginality to price? in what sense, that is, if at all, does the marginal producer, or the marginal factor in production, or the marginal item produced, have an especial bearing upon the market price of the product?

A whole business may be marginal; that is to say, falling prices for the product, or rising prices for an alternative product, or any other influences affecting the relative desirability of different lines of production may decide the marginal entrepreneur to abandon entirely his existing line.

Suppose, for illustration, that at a selling price of $2 per hat an entrepreneur is making a profit of 25 cents per hat; that for every hat now produced he might for the same outlay and trouble produce a pair of shoes salable at $1.90 — thus reaping 15 cents of profit per pair of shoes. The cost of hats for him is then $1.90 each. When hats fall to this price of $1.90, he will be a marginal producer. Fifteen cents of his profits in hats out of his total 25 cents of profit is therefore necessary profit. In other words, 15 cents of his profit enters into cost of production, and 10 cents of it is a surplus above cost of production — unnecessary profit.

Had this alternative in shoes been not $1.90 but $2, he would have been marginal in the beginning, although it might at the same time be true that his profit in hats were outrunning that of any competing manufacturer. Marginality in production is therefore not a matter of absolute gain, but only of gain relative to the next best alternative. It is not always true, or probably even commonly true, that it is the producer at lowest profit who is the marginal producer. Marginality is a question of nearness to equality with the next best thing. The absolute amount of gain is irrelevant. Marginal profit, then, is really relative marginal profit. That business is nearest to the margin that is nearest to abandonment.

But it is more often the case that only some portions of the product of the entrepreneur's business are marginal rather than that his entire product as an aggregate is a marginal product. Falling prices, that is to say, are more likely to reduce the output than entirely to cancel it. This holds good equally in manufacturing and in agriculture, although the illustrations in agriculture may be the more

readily understood. If prices fall in agriculture, the less productive lands tend to be abandoned. These are the lands upon the so-called extensive margin — the poorest or the most distant lands. Such lands are practically rentless by virtue of the fact that for most men they are barely worth cultivating, or not worth cultivating at all, at the ruling prices of products; thus no cultivator can both afford and have to pay an appreciable rent. Similarly there is for every cultivator an intensive marginal cultivation on every piece of land that he cultivates, no matter how good. At any level of prices for products, each piece of land is cultivated so far as it seems to pay. Cultivation comes to a stop at the point where the increased cost is barely remunerated in the price of the increased product. So falling prices mean the restriction of product on all land under cultivation, no matter of what grade; upon lands above the margin, however, they mean not a complete abandonment, but rather what amounts, in substance, to a partial abandonment. Some of the product is not marginal; the marginality is not of the business as a whole.

But certain conditions may affect the entire business to make it marginal. In agriculture, as in all gainful employments, the choice between businesses is not always and necessarily a choice having to do solely with the relative size of the alternative gains. The relative painfulness or dangerousness or ill repute or ill smell of the occupation may have to be taken into account, in arriving at the price total which must be had to attract the entrepreneur into the business, or to hold him there, once he is in. So also in every business the endurance limit, or the recreation limit, or the sleep limit may furnish a margin for some items of product. These influences, which are non-pecuniary and which yet demand pecuniary indemnity, are, indeed, more often significant as affecting certain items of product rather than as affecting the relative advantages of different industries and the terms of the choice between them.

But the labor-pain margin and the sundown margin of weariness or of recreation can obviously have no significance in deciding what uses to make of instruments of production, whether land or machinery. Here the margins are opportunity or outlay margins exclusively.

Pain cost as marginal cost. — It must, then, appear not a little strange that, among all the influences that tend to bring any producer to his marginal product, and thus to limit the supply absolutely or relatively to other products, most of the economists should have recognized as ultimate and determinant only one, the pain-

fulness of labor. For it is clear that, even at the day's-end margin, cessation from work is not likely to be solely a question of weariness as against further product. If there is no question of the hired men, their wages and their acquiescence, there are in any event to be considered the comfort and the welfare of the work animals. Nowhere, in fact, even at sundown, does the labor-pain doctrine hold as the sole influence in limiting the supply of products relatively to one another, or as limiting the supply of any one product, or as the sole explanation of the wage outlays to be incurred in any particular direction. Labor pain stands merely as one among the many cost resistances to be overcome by the prospective selling price. Our wheat-producing farmer, as we shall later more fully see, presents at the same time many different supply margins; *e.g.* a rent-outlay margin, a wage-outlay margin, an indefinite number of seed, fertilizer, and implement margins, a corn-displacement margin for some portions of his product, a bean-displacement margin for other portions, machine-wear and land-wear margins for some acres of his crop, and, among all the others, pity margins for his draft cattle, his wife, and his children, a mixed decency-and-expediency margin for his employees, and, finally, a weariness margin for himself. And all these margins may be effective at the same time to set a limit, in different places and directions, to his production, and might conceivably converge in influence to dictate the non-production of any particular line of product, or of any particular item of that particular line. And at different price levels for products, and with different producers, new and different combinations of margins would be presented; different supply volumes have different supply prices.

Here are surely margins enough, but there are more: At the intensive margin the thing to be decided is not commonly whether one shall apply more expense, rather than save or spend his funds, but whether one may not make greater gains elsewhere. And there is the further problem whether or not to use more land and less machinery, or *vice versa*, or more or less labor as against either or both of the other classes of factors. Evidently the margins are legion; and all that we can say from the cost point of view is that any of the factors of production may, through a change in the resistance attaching to it, become a margin-causing factor, — become, that is to say, an influence deciding the producer to modify or to abandon his line of gainful activity.

Marginality is personal. — But, despite all this elaboration of the fact that marginality sometimes applies to the

business as a whole, sometimes only to certain items of equipment, and sometimes only to certain items of the output, it must not be inferred that marginality is ultimately a marginality of things rather than of persons. Marginality is a matter of individual choice. Whether it be all of the output or only a part of it that is upon the margin, it is in any case an output sought by the entrepreneur for ends and purposes of his own; and neither equipment nor output can be marginal otherwise than through his computations and in relation to his situation, his activities, and his decisions. And precisely so again of his instruments of production: With falling prices any entrepreneur may transfer part or all of his lands to other products, or may sell off part or all of his capital goods, or reduce his labor investment, or restrict his borrowing of funds; or he may, leaving part or all of his investment undisturbed, transfer part or all of his personal activity to his next most attractive alternative; or he may completely abandon the old line of activity. In this case of abandonment, also, he and his capital may hold together as one business group or complex, or may scatter into various enterprises; with falling profits, and possibly with failing pleasure or interest in the business, or at the approach of old age or of ill health, he may decide to retire from entrepreneur activity, reducing his possessions to the form of loan-fund capital. But whatever may be the modifications which result, they will come about through him as a man who has become marginal in some or all of his activities, and no instrument will be marginal excepting in its relation to him. There is, in fact, no such thing as a marginal instrument excepting in the sense that it is marginal relatively to an entrepreneur. Ultimately, that is, the marginality is one of persons, not of instruments.

Marginality, supply, and price. — And note again that marginality, in no matter what aspect, is important only as it affects the quantity of supply and, through supply, affects the price of the product. The marginal item in the product of any entrepreneur is that item which sells for barely enough to cover the extra cost which it imposes. Any instrument is marginal when the further product ob-

tained with it or upon it sells for only enough to cover the costs of the other factors of production that go with it. Any grade of land, for example, is at the extensive margin when the cultivator finds that the product sells for barely enough to make the production worth while. The cultivation of any piece of land is at the intensive margin when the cultivator finds that further product sells for barely enough to make further production worth while. The marginal land or instrument, or the marginal use, earns no rent, precisely because there is nothing to pay rent with. Better lands or better instruments, or better grades of either, command rent because they are worth paying rent for. Production stops at any margin precisely because, at the selling price of the product, production cannot wisely be carried further. But, obviously, this is not to say that the marginal land, or the marginal product, or the cost of production of the marginal product, determines the price. All of the supply over against all of the demand determines the price. Marginal instruments, marginal products, and marginal producers can affect the price only as they affect the supply of products. Thus no one of all the different margins of the entrepreneur, and no total of all the different margins of all the different entrepreneurs, will be price-determining or even price-influencing, excepting to the degree that supply undergoes modification and to the extent that supply is an influence in the fixation of price.

The truth in pain cost.—And it is evident, also, not only that all outlays are elements of cost, but also that personal preferences, repugnancies, considerations of climate, neighborhood, home ties, national prejudice, wholesomeness, cleanliness, good repute, are all elements in cost to the extent that they impose expense to overcome them — to the extent, that is, that they restrict supply and so increase the price of the remaining supply. The cost problem with reference to each entrepreneur, and thereby to any instrument or agent under his control, is simply and solely to determine the point at which supply in different quantities can be had from him, and the degree and the extent of his elasticity in output with changes in price. And it is as one

among all the other cost influences, but commonly as the influence of paramount importance, that opportunity cost acquires significance in the price problem. In any case, therefore, cost is purely a computation of the individual competing entrepreneur. Each entrepreneur has his particular cost computation for his different items of product and for different quantities of product. The cost, then, of any item or volume of product is simply the money expression of the total of resistance to which any entrepreneur is subjected in producing that item or that volume.

It has now been shown that, the demand for any good being taken for granted, cost of production fixes the limit upon the supply of that good — if it be a reproducible good — and determines the price of the good, solely through modifying the volume of the supply; that the cost of production of any item or volume of goods to any producer is the aggregate in terms of price of all the resistances to his production of that item or volume; that alternative opportunities for gain through ministering to other demands are ordinarily of paramount significance to him in arriving at this total of resistance; that therefore cost of production, as the limitation on the supply of any one good, resolves itself commonly and mainly into the resisting appeal of alternative and competing demands; and that the marginality of any entrepreneur in producing, or the marginality of any of the factors of production in his employ, can be significant for price only as indicating different and particular directions of influence upon the aggregate supply of products offered upon the market.

Our next investigation will concern itself with the relation between the need or desire felt by an individual for a commodity and his disposition to pay money to obtain it, or to sacrifice money to keep it — the relation, that is to say, between utility and demand. It will be made clear that utility is purely a relation to an individual, and that the utility of the good to him is merely one way, the technical way, of expressing the fact that he wants it; that no such thing as social utility is known to the competitive market; that the mere fact of utility, the mere existence of a good, does not suffice

to explain the disposition of an individual to pay a price for it; it must also be a scarce good — a good having what is known as *marginal utility*. Thus the precise relations between utility and marginal utility will come under examination: it will be made clear not only that the individual's offer of money for a good, his demand, is not determined either by the utility of the good or by its marginal utility — though conditioned on the presence of both — but also that his demand cannot be measured either by the utility or by the marginal utility of the good, and cannot measure either; that the disposition of the individual to pay a price for a good is the outcome of his comparison of the marginal utility of the good in question with the marginal utility of something else to be had for his money; and that a marginal price-offer expresses the point of indifference between alternative applications of an individual's purchasing power. It must, then, be so much the more clear that market price, as merely the equating point between the total demand for a particular good and the total supply of that good, cannot measure either utility or marginal utility or be measured by either.

CHAPTER VII

UTILITY: DEMAND: DEMAND WITH SUPPLY

Demand and supply related to price. — Market price is always and everywhere, and for every marketed fact, the point of adjustment between demand and supply. Nor is there any market price possible on terms other than of this adjustment. Increase the demand for any good, the supply remaining the same, and the price rises. Increase the supply, the demand remaining unchanged, and the price falls. Demand and supply make something analogous to an algebraic equation. Any change in either side of the equation means a change in the value of x, a new point of adjustment by virtue of which the equilibrium is established in the new equation.

Therefore, always and everywhere, no change can take place in the price of a good otherwise than as a result of a change in the demand for it or in the supply of it or in both. It is easily deduced, also, that no good can ever command a price unless there is a demand for it. Nor, on the other hand, can any good attain to a price unless the supply of it is limited relatively to the need for it. One pays for a thing only because he has to pay — or thinks he has — in order to get it. Our problem of market price divides, then, into two subordinate problems or aspects, *demand* and *supply*, each of which requires its separate examination. *Supply* has just been analyzed; we now come to the *demand:* but as preliminary to demand and as the foundation and explanation of it, we have first to consider *utility* and *marginal utility*.

Utility. — No man would ever pay for a thing unless he wanted it. The fact that a thing is wanted, that it responds to a desire, is called the *utility* of it. In a certain sense it may be said that one wants the thing because it is useful

to him — because, that is, it is appropriate to his needs. Perhaps, however, the truth is rather with those who insist that primarily we do not desire things because they are useful to us or give us pleasure, but rather that they are useful to us or give us pleasure because we desire them. Just as the chicken pecks its way out of its shell without foreknowledge of the glories of the outside day, and immediately upon exit picks up a grain or two of sand, nowise interested in the near-by gratification of its pungent flavor or in the faraway joys of a well-sanded digestion, just so human instincts and tastes and impulses reach their time, and spontaneously activities press forward to expression; rattles wane, and dolls wax, while in later succession sleds and canes and sweethearts and homes and offspring and offices and professorships successively crowd upon the stage of human activity. Things move from indifference through gratification to satiation, as men change in their equipment of desires and tastes and sympathies. And when a thing comes to give us pleasure, it does so merely because we have come to like it.

Utility is desiredness. — At any rate, this view of desire harmonizes best with the concept of economic utility. Utility is the mere fact that a thing is desired. There is in the term no slightest implication of the commendable character of the desire or of the good sense of its satisfaction. Men put forth effort and undergo privation to get whisky, cigars, automobiles, and burglars' jimmies, as well as for food, or statuary, or harvest machinery. So long as men are influenced by evil purpose or by ignorance to buy and sell foolishness and evil, just so long these desires must be recognized as economic facts and the commodities as of market standing. Whether we like it or not, utility as an economic concept means simply adaptability to human desire.

And therefore, in this sense to say that a thing has *utility*, or is a *good*, is nothing more than to say that some one wants it; or, if it is anything more than this, it is so much the worse. Utility is not a quality of a thing but is simply a relation between an objective, external fact and a desiring human being. Whether or not any qualities are anything more than mere

relationships, utility, at all events, is nothing more. As the human being changes, the utility changes — may become greater or may disappear entirely. As well say that the northness of a thing, relatively to any second thing, lies all in the first thing, as to say that utility inheres in the objective fact. Whether anything is north or south of you depends on where you are.

All qualities are relations. — This fundamental principle of the relativity of all qualities has long been clear enough to the philosophers — and to some poets. What we hear or what we see or what we feel is no test of what really is. We are in touch with the outside world only through the intermediary of our senses. Everything external comes to us as reported through our senses and interpreted by our perceptions. What is opaque to the light rays that we can see may afford no obstacle to other rays to which we are blind. Some heat rays affect us also as light rays; others do not; and all might equally well do both, or do neither, according to our apparatus of appreciation. What lies in our experience is no test of what is; on the other hand, it may be said with equal truth that experience is all there is *for us*. What, for example, does the insect hear? So far as we can be certain, it may see what we hear or hear what we see. The rose may send its articulate call to the humming bird, or the lily to the moth. To the vast regions of vibratory movement, from the few thousand aërial pulsations per second of the shrillest tone up to the millions per second which we first appreciate as light and heat, we are entirely insensible. In the psychological sense Niagara did not roar before there were ears; there is no drumming if the drumsticks vainly beat the air, never impinging upon any drumhead. Thus, for other ears than ours, or for ears such as ours might be, the whole universe may be travailing in shriek and groan and varied uproar: or it may be musical with chant and choral and dulcet murmurings — no star of it all but is "quiring to the young-eyed cherubins" — no rose of it anywhere but somehow, also, is a throat. It was, then, in no sheer poetic fantasy, but with a basis of strict scientific possibility, that Dryden declared the beams of nature to be laid every one in music; the spheres starting on their courses in a burst of melody, all beating time to "the cadence of the whirling world that dances round the sun." [1]

[1] George Eliot, also, emphasizing that wholesome dullness of human wit that somehow finds comfort against the most intolerable of human ills in the sheer fact that they are commonplace

Not as literature or as poetic fantasy is all this to our purpose. Later it will have something to say for the meaning and the test of economic productivity; but it helps now toward seeing that accurately there are no attributes of things, in the sense of something intrinsic, or objective, or in any way inhering solely in the facts of the exterior world. Utility — serviceability, usefulness — exists only as relative to a human desire, and ultimately means nothing more than that *the thing is wanted.*

Marginal utility. — We have seen that no one is concerned to get possession of any particular item of commodity that is so plenty as to be had for the taking. Where the supply outruns the need we call the commodity a free good — air, for example. This, however, does not imply that it thereby ceases to be a good — that all items of it lack utility — but only that not all of the items can have utility at once. If some are to be serviceably used, this can be only on the condition that some others become surplus items. It would not at all matter that some were lost; there would be plenty left.

Many commodities which are not markedly scarce rela-

or universal, writes: "That element of tragedy which lies in the very fact of frequency has not yet wrought itself into the coarse emotion of mankind; and perhaps our frames could hardly bear much of it. If we had a keen vision and feeling of all ordinary human life, it would be like hearing the grass grow and the squirrel's heart beat, and we should die of that roar which lies on the other side of silence."

— *Middlemarch.*

And the same keen-minded novelist, who was in turn philosopher, poet, and scientist, also writes:

"Fairy folk a-listening
Hear the seed sprout in the spring,
And for music to their dance
Hear the hedgerows wake from trance;
Sap that trembles into buds
Sending little rhythmic floods
Of fairy sound in fairy ears.
Thus all beauty that appears
Has birth as sound to finer sense
And lighter-clad intelligence."

— *Daniel Deronda.*

tively to the need still do not entirely cover the need; there is no surplus. There is, that is to say, no single item which is not capable of meeting a want, consistently with all other items finding their respective niches of service; some individual is always to be found who would be glad of more; no item of the whole stock presents a zero utility; there is a *marginal utility* to the stock.

This principle is perhaps easier to grasp if we assume that a given individual has a stock of say ten items of any particular good — say bushels of wheat, or cartridges, or dollars. Suppose, now, that he loses one of the items. Among the various different wants to which any one of these items would equally well minister, which want will go unsatisfied? It would evidently be the least pressing among all the wants. The importance then of this least pressing want expresses the significance of the loss of any one item out of the entire series or stock of goods. This least significance or least utility in the stock is the *marginal utility* of that stock.

But, now, when nine items remain, the desire which will be thwarted of satisfaction if one further item is lost is a stronger desire. Thus, the marginal utility attaching to the stock of nine items is evidently greater than that attaching to the stock of ten. So with each successive reduction in the total stock a new and greater utility comes to stand as the marginal utility. The utility of one item, when it is the sole item possessed, may possibly be great beyond measure — the issue of life or death depending upon its possession.

Approaching the principle from the other direction, the same doctrine would look something as follows: As each successive item is added to the supply of any particular thing at any particular time, one's wants become less intense. Thirst is less insistent after the first glass of water, hunger ordinarily less keen with each successive sandwich or order of meat or of pie. That is to say, each separate desire is satiable. It is unnecessary for the present to inquire whether the same statement holds for the aggregate of one's desires, or whether rather, as old desires are relaxing in intensity, new desires are not in turn constantly emerging. Our present problem, the adjustment of market price, has to do with only one commodity at a time, and, therefore, only with the way in which wants affect the price of that one commodity. As leading up to the disposition to pay a price, though not directly determining this disposition, utility and its derivative, marginal utility, become important.

This principle, then, of the satiability of all desires — the falling utility of successive increments in the stock of goods of any one individual — leads again to the recognition of what is known as *marginal* (or final) *utility*. Successive increments of supply call forth a continually diminishing response of desire. Marginal utility is the least utility attaching to — or depending upon — the possession of any one item of commodity out of the individual's actual stock. If his stock consist of only one item, this also is a marginal item in our sense of the term.

This is very simple to grasp for cases where one is either subtracting item after item from his stock or adding item after item to his stock. He grows more keen in interest with each loss, less keen with each additional item. But consider once again the problem, if the case be not conceived as one of a succession of commodity items, — if no item, that is, be regarded as coming early or late as compared with any other, but as portions of a stock already on hand: which now is the marginal item — the item of least promise of service? All have equal possibilities; it is, therefore, no longer possible to regard any one item as entitled, as against any other, to the marginal place. But, even so, it is possible, as we have seen, to regard any item as marginal, in the sense that the loss of it would be felt as involving only the degree of utility depending upon the possession of it, and as significant, therefore, only according to the strength of the desire frustrate by the loss of it. This utility would be the equivalent of the utility of the last item in the series were the different items acquired or considered successively.

And note again that it by no means follows that all of the items are marginal because any one of them may be so. Not all items of a stock can be marginal at once. No one item can be regarded as marginal excepting on such terms of regrouping as shall impose the non-marginal position upon all the others. But it is, of course, possible to treat the entire series as an indivisible group — as a unit — and therefore to estimate the aggregate marginal utility of the group taken as a unit. The loss of utility that will be suffered in the loss of the entire stock is clearly not the marginal utility times the number of items. The sum of the utilities of each of the items regarded separately is the utility of a stock considered as a marginal group, or unit. It is a case of addition and not of multiplication.

Nor is the marginal item to be taken to indicate necessarily the item on the margin of disappearing utility — an item barely worth having, an item just on the hither side of satiation. There are,

it is true, marginal cases of this sort, and other marginal cases approaching closely to it; but any one of these is only one case out of countless different cases of marginality. The point of satiation is only one of the cases of marginal utility, not at all the only one. The least utility of whatever stock the individual has is the marginal utility for that stock.

Marginal utility and scarcity. — In the foregoing chapter were traced the causes which fix or limit supply in the price equation. A further step may now be taken: The existence of marginal utility to the individual — and likewise the size of the marginal utility at any particular time — depends upon the volume of his supply. Only on terms of some limit upon the supply can the marginal item afford utility. With the supply outrunning the need, some items of the supply must be useless, or, as it might possibly be phrased, have a marginal utility of zero. And further: It is only as conditioned upon the existence of marginal utility that any good can command a price. Where the marginal utility is zero, no one will pay anything for any single item of the supply, since no one would have to pay in order to have the item. Air, for example, is of the highest possible utility — some of it — but commands no price because, commonly, there is air in more than plenty. So, often or usually, with water. On the other hand, scarcity alone gives no basis for price; else mosquitoes would be valuable in winter. *Both utility and scarcity are thus fundamental conditions to the emergence of price,* — utility on the demand side as the basis of the disposition to pay if necessary — scarcity on the supply side as the necessity for making the payment.

Marginal utility and price-offer. — It does not follow, however, that always when utility is recognized, the want felt, payment will be made. For note carefully that desire and demand are not interchangeable terms. The boy with his nose glued to the window of the candy store represents desire enough for candy, but no demand, else he would be on the inside of the shop. Economic *demand* has desire for its condition, but it is more than desire; it *is desire coupled with purchasing power.* The want alone signifies nothing in the market. That things are wanted — have utility — is merely a necessary condition to economic demand.

Marginal utility and price-offer incommensurable. — But great care must be taken to avoid the widespread and pernicious error of identifying marginal utility with marginal price-offer. Do we really know how much one needs a thing by knowing what he will pay for it — that the poor man wants his $1500 house no more than the rich man his $1500 automobile? Yet over and over again it is asserted — by economists who ought to know better — that the marginal utility to the bidder determines his bid; or that his bid expresses his marginal utility; or that the marginal bid expresses the marginal utility of the commodity to buyers in general; or that the market price expresses the marginal utility; or that the marginal utility determines, or is commensurate with, the market price. In truth, no one of all these formulations is defensible. Each is the result of slipshod thinking — not better than a blunder, but nevertheless a blunder of a very specious and dangerous sort. Yet the mistake is not difficult to detect. In the hat illustration the price was fixed, say, at $5, $5 being the maximum bid of the marginal buyer, say your own bid. Why should your bid be $5 while that of another man was 6, and that of still another only 4 or 3 or 1? Surely the marginal utility of the hat to each bidder must have something to do with his bid; no one would bid at all if there were no marginal utility for him in the hat. But why was your maximum bid at $5? Doubtless, *other things being equal*, the greater the marginal utility, the higher the bid, and the smaller the marginal utility the lower the bid. You draw the line at $5 because — as you might put it — you can't afford any more for the hat, or because it isn't worth any more than $5 for you. Yes, — but why? Plainly because with the hat costing more than $5, you would rather buy something else, now or later, with your money. If you were very rich, you would feel otherwise about the $5 outlay, because then to buy the hat with the $5 would displace a much less urgent alternative need. So one may be willing to give to-day for bread double what he would have given a year ago, although only equally as hungry to-day. The poor man goes without what the rich man purchases, not because of a smaller need

for the thing under consideration, but because of a greater need for something else. The strength of the desire for other things is a necessary factor in his decision. Buyers are marginal, therefore, not by virtue of the absolute marginal utility but only of the relative marginal utility. A wealth of illustrations, edifying to the point of weariness — about the cigar and the loaf of bread, Dives and Lazarus, the starving man and the man at the feast — ought long since to have placed this truth beyond the range of discussion or the danger of misconception. The fact is that one decides to pay or not to pay a particular price for a good, not as a question solely of his degree of need of it, but also of the necessity which the purchase of it imposes upon him of going without some other marginal utility. No one is willing to trade by the mere fact that he has become conscious of the importance to him of some particular article. He must have become similarly conscious with regard to that definite or indefinite something which, buying the first, he must forego. Marginal utility is a necessary step in the case, but it does not suffice; not one, but two marginal utilities are necessary for the fixing of a price offer. Marginality, that is to say, is an equality of ratio between competing marginal utilities: the thing in prospect is to the thing foregone as 1 is to 1 or as 5 is to 5, etc. And this equality of ratio between the thing purchased and the thing foregone is the only characteristic which different marginal buyers have in common. They are willing to pay the same market price, and this by virtue of the same equality of ratio. Neither money in general nor any particular amount of money is adequate to measure or express utility. Marginal utility is one thing, a real thing, but a thing carefully to be distinguished from that other real and important thing, marginal price offer.

This process of comparing marginal utilities — this estimation of the significance of one thing in terms of another — is sometimes called *subjective valuation*, and the result called a *subjective value* — as over against the objective ratios between things established in the market and called *market values*.

Margins are never determinants. — But this vagueness of thought is still more serious when it is said, as it often is, that the marginal offer fixes the price. If, indeed, the offer is precisely on the margin, a case of complete indifference between the purchase and the non-purchase, the maximum marginal offer is truly commensurate with the market price. But this is worlds away from the assertion that the marginal traders — the buyer alone, or buyer and seller together — are the determinants of the price. All the different buyers and all the different sellers contribute to determine the price. "The withdrawal of iron from any one of its necessary uses would have just the same influence on its value as the withdrawal from its marginal use." [1] The marginal item, whether of demand or supply, differs from any other item only that through it, as marginal increment, a determination may schematically be made of just what effect it, or any other single item, has had upon the price adjustment, measurement being made from the point at which all the other forces in the market would otherwise have left the price. Not to the soldier who fires the last gun is the victory to be accounted, nor is the smallest boy who touches off a firecracker to be held responsible for the Fourth-of-July hubbub. If there is truly a marginal buyer, the marginal price must coincide with his demand price; but neither the point of adjustment, nor the buyer at this point, is the determinant of price. This buyer is the least forceful among all the buyers. True it is that, if he were not in the case, the price would have been other; but so is this true of each of the other buyers. The marginal demand is one among the whole number of demands, and as such has its part in the resulting adjustment; but it is the entire demand in equilibrium with the entire supply that gives this market adjustment. Almost as well speak of the child who chases the wave up and down the shingle as fixing the wave-front, as to speak of any margin as determining the price.

All talk, then, of the fixation of price by either or both of

[1] Marshall, *Principles of Economics*, Fourth Ed., p. 580, n.

the margins is nonsense. It would be nearer the truth, indeed, to say that each purchaser sells as the result of the price and that each different buyer accepts the price offer which the market holds out to him. At the most, the market price is simply commensurate with the marginal offer or with the marginal selling price. It is not the result of either more than of the other; demand has no more to do with price than has supply. Nor is the price rightly to be regarded as the result of both margins together. It is the result of all the price offers over against all the commodities offered. Price is adjusted *at* the margin and not *by* the margin — where, indeed, either manner of statement accurately holds. To assert that these marginal traders are, as against the opposing in-pressing volumes of commodities and of purchasing power, the causal facts in fixing the price calls to mind Æsop's tale of how the fly sat on the axle tree of the chariot and said, "What a dust do I raise!"

Margins participate in causation. — It is, however, not a full and adequate expression of the truth to say that the marginal trades are merely the results of the price. In the main, of course, whether any man is marginal in producing or selling depends on the conditions which he faces. Marginal buying, also, is rather the effect of the price than the cause of it; the total situation is directive of each individual in it. None the less, however, must each be recognized as contributing to the making of the total situation. The buyer buys because the price attracts him, but, as one among the demands, helps to determine or modify the price. The producer accepts the offer which the market price holds out to him, but, in turn, in placing goods upon the market, modifies the price. It is, indeed, precisely through this influence of changing supplies of product to modify an existing price that cost of production has to do with price at all. The logical difficulty in keeping cause and effect apart is not rare in the study of actual phenomena. There are mutual reactions; that which was effect becomes in turn a cause. If, then, there is perplexity in thinking of any particular fact as at the same time both cause and effect, let one imagine himself as jumping — the last person — upon

a crowded raft and sinking with it; does he sink the others or do they sink him?

The higgling area. — Occasionally, however, cases occur in which even the marginal buyer is disposed, if necessary, to pay a price appreciably higher than the minimum at which the seller could be induced to sell — precisely as in the isolated horse trade, one man might be willing to pay as high as one hundred dollars for a horse which the owner would sell at fifty dollars if he could not get more. With a larger number of seekers and of sellers, this intra-marginal interval is likely to be much narrower; but even so, the lowest-price buyer may be willing to pay something more than the highest-price seller must receive. These intra-marginal areas for higgling — these opportunities for ruse and guile and strategy, and even for occasional feats of lying — are not rare. It is sometimes asserted that within this area, where it exists, the marginal traders do actually fix the price, in the sense merely that, by doing the higgling, they give the last touches to the adjustment; make it precise; finish it; put, so to speak, a fine edge upon it. But not even so much as this can be true for the vast majority of cases. With an indefinite number of sellers and buyers in the market, it can hardly be true that in order to reach a price adjustment any particular pair of individuals must get together. They certainly need not; all that the perfect market assumes is that such a price be reached as shall leave no one, having the willingness to sell below the price, to cry his wares without a purchaser, and as shall leave unsupplied no purchaser who would yet search for the commodity at any slightest fraction above the price established. The price which will fulfill these conditions may be established in no matter what way; it is sufficient that it will not be disturbed. The chances are evidently thousands to one that the marginal traders will not get together to higgle, and it is by no means clear that these are the traders of especially marked disposition to higgle. That they are the most indifferent of all, in point of the volume of differential advantages (*consumers' surpluses*) at stake, may not indeed fairly argue that they are the least interested in the particular penny or two

to be contended for; but in actual fact not the number of pennies at stake, but the kind of people playing for these pennies, will mostly determine who will do the higgling and how much higgling will be done. Women of the shopping and bargain-counter mania deserve especial attention in this connection. There is no sufficient reason for supposing them to be purchasers at or near the margin of indifference.

All utility is relative to the individual. — The foregoing discussion should, by implication, have made it clear that utility and marginal utility and relative marginal utility have to do solely with the particular individual as an account of the way in which he arrives at his purely personal and individual decision to become a purchaser at not more than a particular price — to enter his own demand as one among the great total of demands. Strictly speaking, there is no such thing as the comparison of the utility to one person with the utility to another. Men differ in desires and in the degree and manner in which things appeal or appear to offer service. Only so far as, in the general likeness of one man to another, human beings approach to a perfect similarity, or only so far as for some purposes the individual differences may safely be overlooked, is there room for talk of group aggregates of utility, or is there purpose or safety in the notion of social utility or of social sacrifice or of social pain. But for the problems of market price these individual differences will not down. Men are unlike not only in tastes, in intensity and vividness of feeling and of desire, and in the relative strength of needs and desires, but even more in the pecuniary ability to command the appropriate satisfactions. Any homogeneity of utility, any attempt, for the purposes of the price problem, to force different men into any other common denominator than this very obvious one of price-offer itself, is possible only at the sacrifice of all clear thinking. It is, indeed, worse than this; for it removes any problem to think about. As Pudd'nhead Wilson observed: "It were not best that we should all think alike; it is difference of opinion that makes horse races." And so of speculation: and so, in fact, of all trading. Abstracting from the differences between men in order to explain trade, all trade becomes impossible.

Is demand price sufficient? — It is, however, sometimes urged that no other fact or assumption is necessary in the discussion of demand than this one of willingness to pay in terms of money; that if the reduction of all money demand into a utility jelly is

nonsense, the more distinctly individualistic method is at best merely "useless fatigation" — and is really even worse. Why not stop with the fact that the different men have different price paying dispositions and let it go at that? The further analysis is admittedly merely an attempt to furnish an underpinning to the phenomena of price offers. Instead of disturbing or changing the results of the earlier economists, this new marginal utility school of thought does nothing more — it is said — than to supplement and to complete: is it worth the bother?

Impulsive or unreflective activity. — But these objectors shortly unmask a more serious attack: they assert that the marginal utility analysis rationalizes human activity out of all semblance to reality. Even with utility shorn of any implication that human desires concern themselves exclusively with pleasure and pain, and implying nothing but the mere fact of want, this analysis, it is said, overlooks the fact that man in most of his activities is neither reflective nor deliberative; he does not weigh and balance in the manner imputed to him; he just acts; he is not a calculating machine. More often — not always, to be sure — he acts from impulse and habit and irreflection. Instinct and habit and spontaneity manifest themselves in the economic world as truly as in the world of play or of romance. As between automaton and calculating machine, man is nearer the automaton. The difficulty with the marginal analysis is, in short, — these objectors insist, — that it has carried the logic of the case overfar — a logic that is sometimes there, and might always be there, but more commonly is not there — and has made this logic explain where it really does not apply. It has completely rationalized — it is urged — that which rarely more than remotely approximates the rational, and commonly does not even do that. It has translated the logic implicit in the marginal process into a conscious and complete and actual mental process. As the chicken pecks its way out of the shell instinctively, irreflectively, uncalculatingly, and purposelessly; as one wakens in the morning according to the inner time clock set at bedtime; as the hypnotic patient carries out days later the mandate given during his forgotten trance experience; as the *idée fixe* of pathological mental conditions, or even of habit, guards one against all influence of argument or of appeal; as the resolve of yesterday remains by that mere fact the cherished goal of to-day: so do all of us in a wide domain of our activities, move — it is argued — in a half blind trance of inherited impulses and instincts, and of acquired tendencies and aims. So much of our action is essentially reflex that there is more question whether any of it is altogether calculated and purposeful

than whether all of it is. Habit and custom and instinct and impulse, it is said, rather than rational processes of estimate and of comparison, are the adequate explanations — if explanations there are of any sort — for the conduct of human beings on the market as well as off the market. Granted even that in some cases the calculation process explains, this makes it a valid explanation only for these cases. In short, the psychology of political economy is hopelessly wrong — so these skeptics insist — so far as it rests upon the marginal utility dogma.

On the face of the argument this attack is certainly disconcerting. And it is no defense to point out that these critics purpose nothing better in the place of that which they attack — that, giving them their way, the situation reverts to its ancient classic case, where price offer was taken either as an obvious and simple and self-explanatory fact or, — as these later folk would have it, — as a thing inscrutable in its ultimate mystery and as a definitive datum in the science. It must be admitted that an obviously bad explanation is not made good by the fact that nothing better is offered. To clear away old errors is often a necessary step in getting a problem rightly stated; and to discover that there is yet an unsolved problem, and to state this problem, is itself a step in advance.

Hedonistic implications gratuitous. — But first it is to be said that in the notion of utility there is no necessary implication of any hedonistic theory of desire. Doubtless the word has hedonistic connotations — the more the pity — and might perhaps be better replaced by some other term, or even be abandoned out of hand. The utility of an object need mean nothing more, and should be taken to mean nothing more, than one way of expressing the simple fact that the object is desired. Whether a desire or want traces back to instinct or to impulse or to experience, is an inquiry not as to the existence of the want but as to the genesis of the want. This is not especially the economist's task, nor is he especially equipped for its performance, nor is the promise of success especially alluring for him — or for any one else. It is enough for the economist that the desire exists, that the external thing attracts: thereby it is a *good* in the mere sense that it is desired; one wants it. Thus there is no force in the assertion that instinct and impulse and spontaneity lie, in greater or less degree, back of desire. They certainly do; but there is still the desire; and only in this sense is there utility. And utility in this sense there clearly is. If the present wish to purchase is merely the expression of the habit, it is, nevertheless, a present wish. Doubtless one might — were the history of the case a

pressing inquiry — ask how and why one got into the habit: why has it so long been the custom to wish? We stop merely with the wish — hence *the utility*.

Calculation and action. — Not so easily disposed of is the other aspect of the attack. Granted the desires, — that is to say, the different utilities, — is it true that a man, having estimated each of two of these separately, now proceeds to a conscious and rational comparison of these two as a necessary step in arriving at some definite limit upon his price offer, or in deciding whether to buy or not to buy at a particular price? Do men really have their respective maxima in bidding? Or is this also to impute to them a something that they might have, and perhaps rationally ought to have, and may occasionally have, but commonly do not have? When, for example, one goes to town to get him a hat, does he know how high, if necessary, he will go in price? Or, when he gets there, does he then find out? Or even after he has bought the hat, could he tell?

Excepting in marginal cases, or in cases close to the margin, this assumed definiteness is surely not present: but it is still true that men do choose. The real issue is as to how far this is the result of a calculated and considered comparison of the advantages of buying or of the strength of the desire to buy, as over against the advantages of buying now or later something else, or of the strength of the desire to buy something else. For the vast majority of cases is not this marginal analysis an over-rationalization, or even a rationalized caricature, of what actually takes place?

Probably so — if the marginal analysis really implies all this that is imputed to it. But it still stands true that men have desires, — many desires for many different things, — and that these desires conflict with one another and defeat one another of satisfaction. The individual has a limited purchasing power, and the buying of one thing, therefore, means going without some other thing. And clearly enough the buyer knows this; yet somehow he gets to a choice of what he shall buy. He has to decide; and his decision, as he knows, is really the fulfilling of one desire on terms of thwarting another. Most men, it is true, do not know how high they will pay, but only that they will pay more than any probable market requirement will impose. Their choice is so easy between buying and not buying, between having this or having something else in its place, that the decision is reached with so little of consideration that it hardly seems a choice at all. But the choice is, nevertheless, actual, despite the fact that it is easy and simple and that no maximum bid needs be precisely fixed. The utility analysis is nothing more than

a schematic and very abstract account of this process of making these choices. In the marginal case there is more of doubt and hesitation, more occasion for comparing and balancing. That the marginal case may itself be one in which habit or instinct or impulse, on one or on both sides of the alternative presented, determines the actual decision is not an objection. There is still the alternative; and, if the case is really marginal, it is a case in which the choice is so close as to demand conscious decision. Most men, for example, have no difficulty in deciding which particular woman to seek in marriage; the rest are not seriously in the running. But the choice is there. Another man, as with Eugene Field in his doubt as between the charming mother and her no less charming daughter, may long "Like an ass between two stacks . . . simply stand and dodder." This man is marginal. His conflicting desires are near to an equality of appeal.[1]

The adequacy of generalizations. — But after all it is no necessary and imperative part of the case for the defense to assert that this principle of marginal choice takes account of every possible influence in all the complexity of human impulses, motives, and activity. It is rare, indeed, that any scientific generalization attains to this supreme degree of accuracy and exhaustiveness; possibly the present generalization does not. Many economic generalizations certainly do not, as, for example, the assumption that in economic affairs all men act in entire selfishness. All that can justifiably be asked here is whether this is prevailingly true in a degree to justify the choice of selfish motive as the leading and controlling influence. Minor disturbing factors may then be trusted to be inconsiderable in effect or to offset or cancel one another.

It is, in truth, in the very nature of scientific generalization that

[1] But out of a case of absolute indifference — complete and perfect marginality — can any decision or action follow? As in mechanics, must there not occur something like a dead center? There are, in fact, cases of pathological mental conditions in which the patient brushes, for example, upon the problem of which slipper to put on first, and, there being no particular reason for preference, hangs fire indefinitely between the alternatives — completely nonplused.

In normal psychology, however, all attention and all emotion are rhythmical or vibratory — like all physical and physiological movements. Therefore a precise indifference must be temporary, and must be displaced by alternations from one side to the other of the line of the dead center, as the emphasis of desire or attention shifts.

it often does violence to the infinite complexity of the actual concrete phenomena. It must often abstract — must often select some leading force or aspect in a problem, and dispose of secondary influences by this method of offset, or under the assumption that *other things are equal*. So, even if this marginal-utility generalization were admittedly of this sort, its justification need not be hopeless. The inductive method, valid in other fields of science, could be appealed to here: A tentative generalization is suggested by the facts. If this generalization, when applied in the widest way to the entire field of facts, is supported by them, in the sense that it affords an intelligible and consistent explanation of them, a scientific law is provisionally established. Precisely of this sort is the explanation offered under the marginal utility doctrine: (1) it is probable that by introspection of his mental processes each individual will find that, in a general way in making his purchases, he acts in conformity with the principle proposed; (2) the generalization then meets strong inductive verification in the fact that prices do adjust upon the market and do rise and fall in the precise manner which the marginal principle requires and foretells; the facts corroborate the theory. For, after all, why is it that as prices rise many prospective purchasers are retired and spend their money for other things, and that as prices fall lower levels of price-paying disposition are uncovered and purchasing increases? Why is it that no one of us will submit to unlimited advances in price — that as goods go up in price we reduce or cease our purchases? Our theory does explain these market movements on the demand side, and explains them adequately, and explains them in general conformity with human nature. The reasoning or the analysis may, it is true, be later supplemented by further study or may be modified in detail; but it will hardly be subjected to any general discrediting. Rightly understood, — utility meaning merely the fact that a thing is wanted, — the marginal utility doctrine is almost an axiom.

Market demand: Summary. — The fact that a thing is desired we call its *utility:* having utility it thereby comes to be called a *good.*

As bearing on price, utility must be a matter entirely within the individual psychology, since desire is so.

All market demands are price demands; desire, as such, does not appear in the market; utility without purchasing power is irrelevant to market movements.

There could, however, be no price demand in the absence of utility; money will not be paid for a thing if no desire exists for the thing.

But whether money will be paid, and how much, depends, in part, upon the relative strength of the desire for other things, their utility.

But the strength of the desire for any good, as this desire bears upon price offer, is not a question of the utility of the good in general or in the mass or in the average, but a question of the added utility which will accrue with the addition of the particular item under consideration.

For the bidder, this additional utility with the added unit — or, for the seller, the loss in aggregate utility attending the loss of a unit — is termed the *marginal utility.*

Utility may exist without scarcity, but marginal utility cannot. Mathematically speaking, the marginal utility of goods that are not scarce is zero.

Thus the emergence of an individual's price offer is conditioned by the presence not merely of utility, but of marginal utility.

(Marginal utility is, then, not exclusively a matter of desire; the intensity of the desire for the final unit implies a supply influence in the case.)

The direction of the use of purchasing power — or the sale of goods for purchasing power — is a derivative not from one marginal utility alone but from a decision between alternative marginal utilities.

Therefore an individual's utility curve may be plotted, or his price-offer curve for any particular commodity; or an aggregate, or social, price-offer curve; but no social utility curve. And no price offer anywhere is expressive of absolute, but only of relative, marginal utility. It would be possible, also, to interpret the ordinary market demand curve so as to report the varying volumes of a commodity which the market demand would absorb at a series of different prices.

Summary of Chapter: Money demands are not inscrutable data in the problem of price. They require explanation equally

with supply. Utility alone, the fact that an individual wants a thing, does not explain either the necessity that he pay for it or his disposition to pay for it. Unless the supply is limited, no one needs to pay. The limitation upon the supply, the scarcity of a useful thing relatively to the need, is fundamental to the disposition of any individual to pay money, or anything else, for it. The satiability of any desire at any given time, the falling utility of each added item in an individual's stock of any good, leads to the recognition of marginal utility — that utility attending the least important desire satisfied by any item in the stock — that desire which will be deprived of satisfaction with the loss of any one item.

But marginal utility does not explain the disposition of any individual to pay a price. Not only must he have the purchasing power, but also he must decide in what direction to apply it. To buy one thing means to go without an alternative thing. Therefore the decision to purchase is arrived at only as a choice between competing marginal utilities. The steps, then, are from (1) utility to (2) marginal utility, thence to (3) the comparison of marginal utilities, and finally to (4) price offer.

Marginality in demand means, then, merely that at any higher price for the good in question the individual would prefer to retain his purchasing power for some other use. To be above the margin means that the marginal utility of the good in question outranks by some greater or smaller differential the marginal utility of any competing good. To be upon the margin is merely to recognize a ratio of equality between competing and alternative marginal utilities. It follows, then, that an individual's maximum money demand for a good implies nothing more as to the magnitude of the marginal utility to him, or as to the magnitude of the competing marginal utility, than is involved in the fact that these competing marginal utilities are approximately equal. Nor does the fact that two individuals are marginal at the same purchase price imply that the marginal utilities respectively involved are equal, but only that the ratios are the same between the utility in question and the utility foregone. And finally: utility being purely a relation to an individual, and men being different — their desires different and incommensurable, and their money resources different — there is no possibility of finding, either in the demand price of any individual or in the market price, any expression or

measure of utility or of marginal utility. Utility at large, or social utility, therefore, is sheer nonsense for all purposes of the price analysis.

Account having now been rendered of demand as it is related to utility, and of supply as it is related to cost of production, and of demand and supply together as they are equated against each other in the process of price adjustment, it will be the task of the next chapter to show that cost of production — even with demand assumed and with cost interpreted to take account of displaced and competing opportunity — is rather an indication of the direction in which a solution of the price problem is to be sought than an ultimate solution of the problem; that it is purely an entrepreneur computation, adequate and ultimate for the purposes of the entrepreneur in his separate and individual pursuit of private gain, and an inevitable and even a central fact in the competitive process, but neither adequate nor ultimate for the purposes of explaining market price; that, as intended to offer an ultimate explanation of price, cost of production is, indeed, patently circuitous; that it purports to explain the prices of products purely by an appeal to other prices — to the prices of the materials consumed, to the price wages of the labor applied, and to the price rents of the lands and instruments employed. It will also be made clear that precisely because the process of the distribution of wealth in present society is a price process — is, indeed, merely one phase or aspect of the price problem in general — the distributive problem equally with the price problem finds no ultimate solution in cost of production; that such, indeed, must be the case, since, for the most part, costs of production and distributive shares are merely two different names for one and the same thing.

CHAPTER VIII

THE SIGNIFICANCE OF COST OF PRODUCTION

What determines the cost. — In view of the foregoing discussions, it must appear odd that economists should ever have been content with cost of production as an explanation either of the price of any one good or of the relative prices of different goods. In truth, however, they have never been generally content, so far as concerns the attempt to explain price by *entrepreneur cost* of production. Those cost explanations of market price which have commanded serious advocacy have all of them been attempts to delve beneath the mere entrepreneur payments and to search out the causes determinative of these payments. Does the employer have to pay high wages? Some economists have explained this by the painfulness or danger or other disadvantage attaching directly to the work required. And in those cases where the pay for the work is only relatively high, appeal has been made to the relatively great irksomeness or painfulness. This view of the case really finds the determinant of the expense cost of the employer in the labor-pain cost of his employees. Fundamentally it is an employee cost doctrine and not an entrepreneur doctrine — or rather it finds in the pain cost of the employee the cause of the money cost of the employer. So, for example, the great economist Ricardo held that the relative prices of products are due to the relative amounts of labor involved in their production. But he was not the less emphatic in his insistence that prices were proportionate to the costs of the employer; this was very clear to him. But these employer costs were in turn proportionate to the employees' labor burdens. Thus, the relative amounts of labor determined the relative expenses of the employers, and these relative expenses determined in their turn the relative prices; whence

it followed that the labor cost was the ultimate determinant of the market price.

Does pain determine cost? — It is not at present worth while to go far in criticism of this doctrine. It simply is not true that the pay received for work is proportional to the pain or to the general unattractiveness of the work. The wage is affected by the supply of laborers offering for the work, and this supply may in turn be seriously influenced by the unattractiveness of the work. But despite the unattractiveness, the supply of men fit for nothing else is often so great that the wage is a low one, and low out of all proportion to the pains. Other occupations in turn are generously rewarded despite the fact that they are exceptionally pleasant occupations; compare the prima donna with the servant girl. On the whole it is perhaps more nearly true that the more attractive occupations get the higher rewards. And the Ricardian view is even more unsatisfactory as an explanation for the relative hire of different lands and of different sorts of other productive equipment than as an explanation of the prices of products. Pain appears, indeed, to be irrelevant to these particular compensations.

But no matter how bad this labor-pain cost explanation of entrepreneur cost may be, it is still to our purpose as illustrative of the general unwillingness of economists to stop at mere entrepreneur cost as an ultimate explanation of market price. In truth no capable economist ever did so stop. Nor can we. The circuity in the argument is obvious: entrepreneur cost explains the price of the product by appealing to the prices of the productive factors. It traces the price of the product to the price of the costs entering into the product; and forthwith it proceeds to explain the prices of the productive factors — the costs — by the price of their joint product.[1]

[1] "The price of pig
Is something big;
Because its corn, you'll understand,
Is high-priced, too;
Because it grew
Upon the high-priced farming land.

But entrepreneur cost is superficial. — The truth clearly is that the labor-pain theory of price, purporting to base the entrepreneur level of price costs upon an underlying stratum of " real " costs, attempts to arrive at a fundamental explanation of price, and arrives merely at a false explanation; while the entrepreneur view of cost of production, in its care to remain a correct explanation, gives up the possibility of becoming an ultimate explanation. The entrepreneur doctrine of cost gets no further toward explaining the prices of products than to explain some prices by other prices — the price of the product by what the factors entering into it cost. But this leaves these cost prices unexplained. And if they are explained by the price of the product, this, in turn, leaves the price of the product without explanation. Nor does an appeal to opportunity cost release us from the circuity or move us nearer to the fundamentals in the problem. An opportunity to produce something else is sacrificed in producing the actual product; but it was an opportunity to produce another thing bearing a price; and this other thing enters into our problem not as a foregone thing merely but as a priced thing, a displaced price product. Thus opportunity conceived as cost becomes a price fact, just as is the thing that is actually produced, and just as is each wage and material and rent item in the ordinary cost explanation of price. It is certainly necessary to take account of opportunity costs, precisely because the entrepreneur does actually take account of them in deciding whether or not to produce in any given line. They must be in the doctrine because they are in the facts. It is, indeed, only by recognizing these opportunity costs that the cost analysis can present a complete and truthful account of cost as it actually is and as it actually functions in the determination of supply. But the same vice of attempting

If you'd know why
That land is high,
Consider this: its price is big
Because it pays
Thereon to raise
The costly corn, the high-priced pig!"

to explain one price as product by another price as cost attends opportunity cost that attends other costs. If opportunity costs are in any respect better than the other costs, it is not in being less superficial, but only in being less obtrusively so: the other costs appear to derive their prices from the very products the prices of which they purport to have determined; opportunity costs, however, derive their price standing from alternative possible price products which, as displaced, never became actual. But either sort of cost, as an explanation of price, is an attempt to explain particular prices by other prices.

Why cost is important. — But that this entrepreneur computation of costs is plainly superficial is no denial of its actuality or of its supreme importance as an intermediate step in the great value problem. The very fact that all the underlying and determining influences focus in the cost computation is alone sufficient to establish this. We live in a society organized under competitive entrepreneur production. Modifications in the relative supplies of goods come about through the working out by the entrepreneurs of their individual cost computations. The whole process is captained by them. All of its forces and determinants manifest their influence and obtain their expression in terms of the cost computations of the entrepreneurs. Are rents for certain lands high? The entrepreneur has found it worth his while to bid thus high for these lands because, being scarce, their products sell high. The ultimate explanation for the prices is not with the entrepreneur but with the supply of land and of other factors of production, as over against the desire for land products and for other products. Thus the point of view from which to attack this problem of causes is the entrepreneur point of view, precisely because here the problem is presented in terms of the results which the ultimate causes have worked and of the conditions which these ultimate causes have established. We study the causes of price from the entrepreneur point of view, simply because it is through the entrepreneur process that the ultimate causes are forced to obtain expression in a competitive society. Science is doubtless more than

a mere description — generalized so as to be manageable — of the way in which things happen; but thus much at least it must be. In addition, there is need that its generalizations run in terms of the causal sequences involved. By the test of either requirement, we must study an entrepreneur economics in terms of the entrepreneur process.

Cost is pivotal in competitive production. — In no field of economic activity, and therefore in no field of economic analysis, are we ever far removed from this entrepreneur process of the adjustment of production and of prices. It is, as we have seen, through the entrepreneur computation of costs that supplies are flexible in the market and therefore come to be adjusted against the demand. It is, in fact, the entrepreneur who furnishes the demand for all intermediate goods — the raw materials and the instruments of production — the things which are called production goods as distinguished from consumption goods. The entrepreneurs are the bidders for the labor and the payers of the wages. It is by the competition of the entrepreneurs of each industry with the other entrepreneurs of that same industry, and of the competition of the entrepreneurs of each industry with those of other industries, that wages in particular and wages in general find a level. So the rates of interest on capital funds, and the rents of lands and of other productive equipment, are adjusted mostly or entirely through entrepreneur bidding. The various incomes apportioned under entrepreneur bidding to the various production goods rank by that very fact as items of cost in the process of placing goods upon the market. The entrepreneurs pay these various rents and hires because of the prices to be obtained for the products. It is in truth precisely this entrepreneur point of view which gives to the market prices of products this appearance of being the causes of the prices of the productive factors in the computation of costs. And it is equally this same entrepreneur point of view which makes the prices of these productive factors appear to be the causes of the prices of the products.

It is, therefore, precisely at this point that it becomes necessary to explain the price costs without any attempt to de-

duce these from the prices of their products, and to explain the prices of the products without deducing these from their price-costs. It is the particularistic and individualistic nature of the entrepreneur's activities and computations that explains his ambiguous formulations of causation and his perplexing circuities of logic. But somehow, none the less, the problem must be seen in the large and as a whole, and yet not inconsistently with the particularistic process. Otherwise the logic must always be Janus-faced. The fundamentals of the problem must be articulated with the process as it actually takes place.

The causes that underlie costs. — It is in this aspect that our earlier study of the organism and of the environment offers its especial service. Man as consumer is the end of the economic process, its purpose and its justification. His wants are, therefore, fundamental in the case. But he is not merely the end; as producer he is also means to the end.

Therefore, over against the human need for goods, there is to be set the human being as producer together with his external equipment of auxiliaries (instrumental and intermediate goods). Taking for the time being his needs for granted, the relative prices of different goods must trace back to the relative scarcity of the economic ability to produce them, or to the relative scarcity of the appropriate equipment, or to both in conjunction. **The causal sequence on the supply side of the problem runs from the relative scarcity of the factor to the relative scarcity of its product, thence to the relatively high price of the product, thence to the relatively high remuneration of the factor.**

The cause of the market price of the product is, therefore, on the supply side, not the high rewards of the contributing factors but the scarcity of them, which scarcity explains the scarcity of the product. It is this relative scarcity of the factors that ultimately explains their relative positions as costs. But the hire of any factor as cost gets its immediate explanation not directly from the scarcity of the product but, *as an entrepreneur computation*, from the price of that product, which price is in turn due to the scarcity. Each

individual entrepreneur, in his private search for private gain, schemes and contrives and adjusts within this large general situation; is mostly determined by it; and finds no ultimate cause for anything; and needs look for none. His motive for the hiring of factors is to place upon the market a price product. The limitations upon his individual product are set by the prices imposed upon him for the necessary factors. The whole price situation presents itself to him as causal of his costs and as set over against the demand prices which customers will consent to pay for his particular product. He stands merely as an intermediary in the case, representing, in his hiring or buying of productive factors, the demand of the purchasing public, and representing, in his cost computations, the degree of scarcity of the productive factors relative to the demand for their products. Thus on neither side is he the ultimate cause. He is merely an agent directing the process through which an adjustment is reached among all the influences focusing upon him — on the one side, all the different desires for goods as they are represented and expressed in price offers; on the other side, (1) the aggregate human productive ability for his purpose, (2) the aggregate intermediate equipment. We say that he is merely a result and not a cause. Yet clearly enough, as one item of human productive power, he is in so far a part of the total cause. Through his choices and his changes of productive activity he reacts upon the great situation that he faces and is, therefore, in some degree a cause to modify it. It is by entrepreneur bidding that the factors of production receive their prices and change their prices. This bidding is done and the prices are paid in view of the marketable product which is in prospect. Thus the expected product is at once the purpose of the bids, the justification for them, and the limit upon them. The joint product of the coöperating factors is a price fund to be divided among them. It is, then, by the process of entrepreneur bidding that this division of the joint price product — the distribution of it — is made among the different claimants to it. The prices upon the factors are the costs of their product — a product which is significant as product only by virtue of

its price and in the degree of its price. The product is a price item and the factors are price items. The prices paid for the factors are, then, distributive shares out of the product derived from them. And since the costs are price items and the products price items, it is evident that the problem of the prices of the products and the problem of the price shares distributed out of the products — the costs — are merely different aspects of the one great and inclusive problem of market price.

The moving equilibrium. — The truth is that the vice of circuity is everywhere difficult to avoid in reasoning upon the problem of price. Prices have their setting in a great moving equilibrium, all the parts of which are related to all the other parts, and are in close interdependence with them. As one part changes, others and then still others change. The lines of causation are not easy to trace or even the direction of them easy to establish. Almost anything may plausibly appear as the cause or the result of almost anything else. Where, if anywhere, are the ultimate determinants? Is there, indeed, casually or logically, either beginning or end to be discovered? We start with the entirely correct assumption that the market price of any one commodity is determined by the demand for it and the supply of it, and that this price is the equating point between the demand and the supply. But note that this way of formulating the price problem concerns itself with only one commodity at a time. Prices are tacitly taken for granted as already fixed for all other lines of production. Thereupon certain maximum paying dispositions are ascribed to the respective individuals demanding the commodity in question. But why these maxima? Why does a particular individual limit his payment to say $10? It is precisely that to this $10 there already attaches a purchasing power over other things. That a purchaser is marginal at $10 means that at any price above $10 for the article under consideration he would rather buy something else. Our analysis of the forces determinative of the demand side of any one price equation proceeds, therefore, upon the assump-

tion of an existing medium of exchange and of an established general price situation, — assumes, that is to say, an existing system of prices upon goods in general and an established price relation for these goods in terms of money. And were there no money in the case, were trading confined to barter, a decision to pay not more than 10 sheep for one horse must be arrived at in view of what the sheep would buy of other things than horses.

Or consider this same difficulty in another aspect: Money comes to be offered for any given commodity, say hats, by virtue of the fact that possessors of other commodities have changed these over into money to be used as purchasing power.

These other commodities are of indefinitely various sorts. The *money* demand for hats sums up, therefore, countless different dispositions to barter different commodities for hats. In each case of the exchange of these other goods into the money with which to buy hats, the desirability of the trade depends upon the amount of money that these other goods can be changed over into. The money demand for hats can, then, only schematically be set apart from the money price of other things.

The supply aspect of the moving equilibrium. — Similar difficulties present themselves upon the other side, the supply side, of the market equation. The disposition of a seller to insist upon a certain price expresses merely the fact that at less than this price he would prefer the thing in hand to anything else that the money would buy. Other exchange relations, an established system of prices for other commodities, are really involved in the fixation of the price at which any one commodity will be offered for sale by any individual.

Cost of production likewise, as lying behind the reservation price of any seller, points commonly and mainly to the price productiveness open to the entrepreneur in other lines of production: the farmer, for example, must have a certain price per bushel for his wheat, else he will produce corn or hay or wool. The cost of producing one price fact must commonly afford an indemnity for not producing an alternative price fact. The supply of any commodity is, therefore, inseparably connected with the prices of all other producible goods, precisely as the paying disposition for any particular line of goods is inseparably connected with the paying dispositions for all alternative goods.

What, then, can be done? — If both the demand concept and the supply concept are valid to explain a particular market price only upon the assumption of an otherwise complete and adjusted price situation; if the usual interpretations of cost are incomplete, and superficial; and if any amended doctrine of cost can be better only in being made exhaustive and actual, but must be equally open to the charge of superficiality or circuity, — where shall be found an explanation causally ultimate and logically adequate?

It is still necessary to explain things in harmony with the actual process in which they take place: our explanations must be formulated consistently with the existing entrepreneur on-going of things, and at the same time must be formulated in terms of the causes which determine and direct this actual on-going. We are not to rest satisfied with the fact that, for example, the rent is high or low or the wage outlay this or that; we must go farther than the entrepreneur goes in explaining what the entrepreneur does. We must, that is to say, appeal to the human wants which, in terms of price-demand, are making call upon the productive powers, human or environmental, which the entrepreneur employs for hire. On the cost side of the case, not the rents paid for land, but the lands available for supplying product, are the explanation of this supply and of its price. So with wage costs: it is the labor supply and not the wages which are fundamental in the situation. In collectivistic production the problem would present essentially the same determinative influences but the process would be another. In the present price system, the process is the entrepreneur process. It is the entrepreneurs whose gain-making activities furnish the guidance and the direction under which the underlying conditions and causes reach expression. It is the entrepreneurs who distribute the productive agents and instruments into their different channels in response to the pressure of human needs as expressed in competing price demands. It is through the bidding of competing entrepreneurs that prices are attached to the materials that enter into the productive process, and that the various hires accrue to the various productive factors. But the fundamental facts that face the entrepreneurs, the conditions within which they work, the energies that they supervise, the forces that they adjust into a market equilibrium, are the ultimate situation facts — on the demand side, human needs, on the supply side, productive equipment and productive ability. In the cost computations of the entrepreneurs we are studying the case in the form of the actual process in which the thing takes place. There is nothing further

possible here in the way of explanation than fully and accurately to describe the process.

But each factor conditions every other; the process is something larger in its reach than the activity of any individual entrepreneur; it is each entrepreneur in face of all the others, and all together in face of the general situation of needs and equipment and human productive power. Out of this total situation, of which the entrepreneurs make a part, and over which at the same time they are the supervisors and directors, there emerges the resultant price adjustment. To the individual entrepreneur, not merely these underlying and determining facts, but the market adjustment flowing from these facts, stand as definitive data which he is powerless to change and to which he must make such gainful adjustment for himself as he may. But none the less it is to these entrepreneurs as an aggregate that this market adjustment is due, — the underlying situation being taken as assumed. Collectively they are the cause of an adjustment which appears as directive and controlling for each individual entrepreneur in the process. But each of these individuals helps in turn to bring about this aggregate adjustment. Thus the activity of each appears to be a derivative of that which each in his own small share has contributed to establish. If there is confusion in thinking of any particular fact as at the same time mostly effect but partly cause, let one again imagine himself as jumping, the last person, upon a crowded raft and sinking with it. Does he sink the others or do they sink him? So the entrepreneur is a director and supervisor. But in part he creates the situation which he directs and supervises.

We have seen that cost of production is the entrepreneur's method of computing in terms of price the total resistance to production — of arriving at the price which he must receive if he produces; that this computation may apply to an item of product at his margin of production or to any volume of his product as a whole; that he has small concern with the pains or burdens or sacrifices of his employees otherwise than as these may influence his outlays in wages; that such of the outlays as attach to the use of the bounties of nature can have no pain cost behind them; that much even of the labor which the entrepreneur employs is not painful to those who perform it, and that the pay of the different laborers bears no proportion to the painfulness of the tasks which they perform; and that therefore cost of production *as entrepreneur money cost*

is incapable of direct or indirect reduction to any possible denominator of pain.

And further: it is clear that the money costs to the entrepreneur are partly due to the attractiveness of alternative opportunities for gain; that therefore no cost of production doctrine is adequate or accurate which does not take account of competing opportunities as costs; and that such costs as attach to the equipment goods owned by the entrepreneur are mere foregone opportunities, and lack any possible reference to pain.

But it has also been made clear that, even with demand taken for granted, entrepreneur cost of production cannot stand as an ultimate explanation of price. Offered as such explanation it is, indeed, both circuitous and superficial; it purports to explain some prices by other prices — the price of the product by the prices of the costs. If the pain cost theory, in its attempt to arrive at an ultimate explanation, avoids superficiality through committing itself to sheer error, entrepreneur cost does even worse; it avoids error by stopping at superficiality or even circuity. Nor is it entirely consistent in its circuity; for it alternates between regarding the price of the product as dependent upon what, as costs, the different factors are paid, and regarding what the different factors are paid as dependent upon the price of the product.

The same circuity vitiates also the distributive aspects of the price problem, precisely because the distributive shares are mostly the same sums that the entrepreneur computes as his costs; distributive shares to the recipients are costs to the entrepreneur. Thus, either the price of the product or the prices of the costs (these costs being mere distributed fractions of the product) must remain unexplained.

If, however, there is any escape from this circuity, it is solely for the economist to seek it. The cost of production computation, however neglectful of ultimate bases and explanations, is entirely adequate for all the purposes of the entrepreneur. It is no business of his to explain either the necessity of his outlays or the prices of his products, but only to arrive at the largest possible net gain from his efforts and his investment. But the economist's problem is quite distinct; he must really explain; and part of his difficulty is in the fact that his explanations must be sought within the actual situation and must run in consistency with the actual entre-

preneur process. He must accept the entrepreneur function and the entrepreneur analysis; but he must carry the analysis further than the entrepreneur is concerned to carry it in explaining what the entrepreneur does, — the situation conditioning his activity, the forces playing upon it, and the results that flow from it. Thus the economist must recognize that both the prices of the products and the prices of the bases of the product are equally results of the underlying and determining conditions; that neither does cost ultimately fix price nor price ultimately fix cost; that the outlays which the entrepreneur makes, the scarcity of the products which he produces, and the prices at which he must sell these products, are equally the results of the limited supply of the productive factors which he employs; and thus that, with the demand for the products taken for granted, the causal sequence on the supply side of the problem runs from the relative scarcity of the factors to the relative scarcity of the products, thence to the relative prices of the products, thence to the relative remunerations of the factors. These remunerations are forthwith to be recognized as distributive shares.

It thus appears that costs to the entrepreneur are merely the guise in which, in an entrepreneur economy, the underlying and controlling situation of human needs on the side of demand, and of productive ability and productive equipment on the side of supply, present themselves to the entrepreneur and bear upon him in his process of placing a particular product upon the market. Costs are merely one point or aspect — but the central point or aspect — in the process of production and distribution in the competitive régime.

The following chapter will be devoted to an analysis of the meaning of the terms *producer* and *productive* in the competitive economy, and will show that the point of view from which *production* and *productivity* must be interpreted is the private and individual point of view; that all labor and all instruments of production are hired and paid for by individuals that want them, and are wanted for their service to individual gain; that anything that aids the user in his quest for gain is productive to him; that the effect upon others or upon the general welfare is not to the purposes of the quest, and therefore is not relevant to the meaning of the term; that in neither the materiality of the source of the service to the individual nor in the materiality of the result

is the test of *capital* or of *productivity* to be found; that any possession that brings gain to its possessor is capital, and that any result that commands a price is product; in short, that *productivity* in the competitive order means merely serviceability for private income or private gain — means *proceeds.*

CHAPTER IX

WHAT IS PRODUCTION? WHAT THINGS ARE PRODUCTIVE?

The variety of productive activities. — We have already noted the wide variety and complexity in the desires of men and in the labor and equipment employed in satisfying these desires. Some labor is applied to obtaining wheat or meat or vegetables for human food, — other labor in the different departments of the clothing industry, still other in the making of textiles for tents and awnings, other again in constructing those larger suits of clothing which we call houses. And there are tables, chairs, pictures, books, wagons, cars, locomotives, automobiles — a countless variety of commodities upon the market in the form of tangible material products. And there are immaterial products; if foods and medicines to make us strong and well are the result of productive enterprise, what shall be said of the wise advisings by which the physician directs us toward the same goal of health. If his pills are products worth paying for, his advice is still better worth — a more valuable product. To regard the maker of a violin as productive occasions no difficulty; as little should any one hesitate in pronouncing productive the employee who plays the violin. If the manufacturer of a book is productive, so also is the writer of it. And if the writing of an essay is productive, so also is the effort of the lecturer who does no writing. And if a painting is a product, so also is the vitascope picture upon the canvas or the living pictures which actors present upon the stage. And by the same test teachers and preachers and singers are productive. Likewise the railroad that transports the goods, or the retail merchant around the corner who makes them accessible, is as much a producer as the farmer that grew them.

The nature of competitive production. — Economic production is the bringing about of changes appropriate to command a price; it is the response to price-paying disposition. Anything that meets this test is economic production. And nothing else is.

But no economic activity is able to command a price merely by the fact that the result is useful. Not only must the result have utility, it must also be scarce, else, not having to pay for it in order to get it, no one will pay for it; it will command no price.

Thus the test of productivity is not in the materiality of the product. To produce is not to create. The production of borax requires merely a 20-mule team to change the location of the thing from a place where, satisfying no need, nobody will pay for it, to a place where there is a disposition to pay. So, to produce coal is in part to change its form, and more to change its place. The production of ice is mostly the keeping of it from winter to summer, a time utility. A statue is merely form utility. In truth, so far as we know, neither matter nor force can be created or destroyed; the law of the conservation of energy appears to be of universal validity. Decay, combustion, and digestion are the mere breaking apart of matter, the taking on of a less complex organization, the undergoing of new distributions. Mechanical energy may be changed to heat, heat to light or to electricity, heat or electricity back to mechanical energy, but the equivalence is constant if all wastes and leaks are allowed for.

And there is really a more serious difficulty for those economists who regard the materiality or tangibility of the results achieved as the test of productivity. It was pointed out in our analysis of utility that the so-called qualities inhere not in the objective fact but only in the relation of that objective fact to the human being; that what we see or feel or taste or hear gives no trustworthy account as to what the outside world really and ultimately is or is not, but only as to how it affects us. It follows that we have as little warrant as necessity for asserting the materiality of any part of the outside world, in such a sense as to distinguish it from the world of force or energy. In truth, all that we know of the external fact that we call matter, we know solely in terms of the forces with which it affects us — in resisting the pressure of touch, deflecting rays of light to us, drum-beating upon our apparatus for hearing. Extension is only resistance over a given area, density

is only degree of resistance, weight only pressure downwards, taste only a chemical reaction. For what we know — and as later science inclines to infer — matter may be nothing more than the manifestation of force — the ultimate elements of the atom mere points of electrical energy. At all events, we know matter only as manifestation of some form or forms of energy. The issue does not fundamentally signify for our economic reasonings.

It follows that to measure wealth in any degree in terms of material existence is misleading. There is no more matter in the world at present than there was a thousand years ago; but matter has been modified so as better to answer human needs. The house which was mere clay or stone, the cloth the material for which was not grown but was in the earth or the air, are now wealth to mankind. Work produces no new matter, no new forces; it does change the applicability of matter and force to human uses. The iron in the earth mined, melted, freed from impurities, hammered and fashioned, forms a pocket knife. Nothing has been added to the matter of the earth; something has been added to the wealth of men.

Thus, as human needs, desires, and knowledge expand, there is, by that very fact, room for an increase in wealth. "Of the one hundred and forty thousand species of vegetable life we find only three hundred of sufficient value to cultivate; and of the thousands of species in the animal kingdom we make use of but about two hundred." (De Candolle.)

Goods increase, therefore, along two lines: (1) by changes which man impresses upon the outside world in making it more fit for his uses; (2) by changes in man himself — in strength, in knowledge, in desires — by which he becomes better able to make use of the outside world. Pianos could not be wealth in a society lacking musical tastes, or books wealth to savages. That a mineral becomes wealth presupposes a human use to which it may be put, an ability to mine the mineral, and a knowledge to adapt it to use. It is this capacity for service, this attribute of utility, which marks all objects of desire and brings them within the broad classification called *goods*.

Services are products. — There are, however, goods which are commonly termed not wealth but services. A book, or a sheet of music, or a piano, is wealth. All afford pleasure or advantage. They may be preserved, handled, possessed.

That is to say, they are fixed and embodied in matter. But we are equally and as truly served by the advice of the physician, by the efforts of the singer or the actor, by orators, preachers, and teachers. These goods, which are termed by the economists *services*, are very important facts in life, and furnish the occasion for a large share of our expenditures. On the street car or the railroad we pay for being carried. The policeman, the judge, and the lawyer supply us, in security, direction, and advice, with things we acutely need. From household servants we purchase attention, care, and attendance. In truth, it is sometimes hard to draw the line between services and commodities. We eat the broiling of our steak as truly as our steak. Thus the performance of a service must be accounted an act of production, since it is the creation of valuable utility. Ultimately, indeed, all commodities are such by the services which they finally render — their psychic effects.

For the purpose of the inquiry as to what sorts of labor contribute to increase the aggregate accumulated wealth of society, an inquiry with which the earlier economists were much concerned, there is importance attaching to the classical distinction between so-called productive and so-called unproductive labor. Services are in their very nature evanescent; they will not store; in coming to be they cease to be; they do not add to the stock. On the other hand, that which is material is in a general way enduring. Thus only material things appear to add to wealth. But the line of distinction which was really sought was not that between the productive and the non-productive, or between the material and the immaterial, or between the tangible and the intangible, but between the accumulatable and the non-accumulatable. The line, however, between the material and the immaterial applies not badly for the purposes of the desired distinction. Some forms of material product are, it is true, very temporary in their existence; *e.g.* ice cream; but, nevertheless, the distinction as made draws the line fairly accurately between the things that add to accumulatable wealth and those that do not add. The terms *productive* and *unproductive* were, however, not well adapted to the purposes of the distinction. Nor does the distinction mean much from the point of view of the modern competitive analysis and of its theoretical needs.

The producer is not product. — Productive, then, we call whatever labor achieves a gain for the laborer whether its results be a valuable commodity or a valuable service. But here another difficulty presents itself: doubtless food or medicine is wealth; but is the derived health or strength wealth? Accurately speaking, can one's face be one's fortune? Is one who is studying a trade or a profession yet a producer? If health is wealth, does it matter whether one is born with it or had to acquire it? Are one's muscles a part of his wealth? One's digestive apparatus? The distinction must be again drawn between those things in the outside world which are gainful to man and those things which, in the last analysis, are a part of man himself. Bread, for example, is clearly enough an outside good, an external thing commanding a price. How after it is eaten? We say that it has been consumed. It no longer exists as bread. Its services have been rendered in maintenance of life or increase of strength. But how shall we regard this result, this strength? In the primary division of economic facts into man and environment, does bread fall into one classification and strength into another? The thing was bread; it is now life or strength. Is it now something possessed by man, or is it a part of man himself? Is it subject or object, possessor or possession, man or environment?

Man is the beginning and the end of productive effort. The creation of utility is purposed by him for his consumption. He puts forth effort that he may enjoy its rewards. The economic cycle begins and ends in him. He works that he may live. He is the producer and not the thing produced. The more strength the better producer — later the larger product; but the strength is not product. So the mixtures prepared by the chemist, and the doctor's compoundings of medicinal gums, fall within the class *goods*, while my good health to resist contagion and your good sense to avoid it are ranked as human attributes.

Only objective facts can be wealth or product. — But while the knowledge which avoids disease is a human attribute and is not wealth, the outside fact from which this knowledge is obtained, the book, or the advice of the physician,

is either wealth or service. The mental power of the physician, his knowledge, however, is not wealth; it is the source of his ability to do a useful thing, to speak a word or write a prescription which shall be of advantage to another human being. This knowledge is a part of the physician's equipment for the production of utility. When this equipment shall come to service the result will be a good. As equipment, however, it is not utility or good, but physician.

The terminology and the distinctions so far given are concisely summarized in the following:

- Facts
  - Internal
  - External
    - Useless to possessor
    - Useful to possessor (goods)
      - Plenty (valueless)
      - Scarce (valuable)
        - Services
        - Wealth (property)

But one or two ambiguities should be noted. The term services is used to indicate either the valuable result of the labor or the labor itself. But obviously, by this test of results, all material goods finally render services. The term wealth, on the other hand, is sometimes said to apply only to material things of value. A franchise, however, or a patent right is wealth by the fact that it is an objective thing, a possession; wealth, therefore, means in essence valuable possessions, whether material or immaterial.

Materiality unimportant. — But to return to the productivity of labor: we have seen that all work in the production of valuable goods, material or immaterial, wealth or services, is productive so long as the result is something of value objective to the workman. Thus the bookkeeper or designer or advising chemist in the factory must be declared productive; or the salesman in the warehouse; or the traveling salesman upon the road; or the writer of advertisements. Each has a separate share, a share worth paying for, in getting saleable commodities upon the market. All are cogs in the machine, steps in the process contributory

to the great end in view, — namely, the production of something that some one is willing to pay for. If we are to regard as productive the industry which furnishes the cattle, so must we also the industry that cooks the beef. If to grow wheat or to grind it is productive, so also is the baking. If the stock car is productive in transporting beeves or grain over wide intervals of space, so also must be the waiter who brings the food from the kitchen or passes it at the table. If we pay to have commodities transported, so we pay to have ourselves transported. The rule which holds for the tailor who cuts the goods or for the laborer that pieces the goods together, is valid also to declare productive the presser who shapes or the valet who brushes. We wear the making or the brushing of the coat as truly as we wear the cloth of it. She who wields the broom in the house is no less productive than he who fashions the broom in the factory. One colorist with his brush pictures his fancies upon canvas; another color-worker by the magic of his words paints pictures upon the tablets of the mind; the fact that we pay for either shows either to be value rendering.

Ethical tests irrelevant. — Nor, again, does it at all matter to the purpose what may be the artistic merit of the service or its moral quality — whether the advice be wholesome, the acting skillful, the music classic, the play clean, the teaching scholarly, the lecture conservative, the preaching godly. Each of these questions is irrelevant except in so far as it may have some bearing upon the price that will be bid. Peruna, Hop Bitters, obscene literature, indecent paintings, picture hats and corsets are wealth, irrespective of any ethical or conventional test to which they may or may not conform. Being marketable, price-bearing, they are wealth. So likewise of services; in no case is economic productivity a matter of piety or of merit or of social deserving. Were it otherwise, it would be necessary to change one's political economy according as one were talking to a prohibitionist or to a German. What is the economist, that he should go behind the market fact and set up a social philosophy of ultimate appraisals; "For who knoweth

what is good for a man in this life, all the days of his vain life that he spendeth as a shadow?" If the generous fees that the lawyer receives for pleading an unjust cause are earned, so also is the daily intake of the beggar at the corner, or of the holdup man in the alley. Always and everywhere in the competitive régime the test of competitive production is competitive gain — proceeds. Whatever effort serves the acquisitive end is labor. Profits are merely one form of individual pecuniary return for personal pecuniary activity. Speculators, lobbyists, quacks, painters, abortionists, and prostitutes are producers: that they are paid is the adequate and ultimate proof. This is surely not to deny the fact of parasitism in society. But parasitism is not a competitive category but an ethical appraisal. In the economic sense, productivity in a competitive society — the *proceeds* concept — is a concept unrelated to ethical criteria and unconcerned with any social accountancy. Grass-cutting or sheep-shearing on the farm or the range, slave-driving on the plantation, slave-catching in the jungle, sweat-shop exploitation by the contractor, white-slave exploitation by the procurer, tress-cutting from peasant heads by the hair merchant, pocket-picking by its professors, adulteration by the manufacturing druggist, poison-canning by the packers, shell-gaming by the gamblers, privilege-manipulating by the monopolist — are all productive occupations. Whether one, in his catholic wholeness shall include, like Francis of Assisi, the grass and the flowers as among the brotherhood that he may not exploit, or, with the vegetarians and the Humane Society, shall exclude from his exploitation only the higher levels of the brute creation, or shall extend his operations to the African, the Indian, and the Chinese, or, aiming still higher, shall subject to his purpose of gain his fellow-citizen, his neighbor, and finally, his mother, are purely moral questions, interesting to the arts of public policy and of legislation; but gain remains gain however it be achieved; and competitive productivity includes it all.

So again productive effort is often exerted in producing goods for the consumption of the producer himself. It is thus evident

that labor is not to be declared productive or unproductive by the test of whether the product is actually sold, or even by the test of whether the producer could sell it, but rather by the test of its having a price significance. Its result must be not merely a utility but a valuable utility — something that the possessor would pay for if he had to — something that, produced by him or by another for him, will protect him from some outlay or sacrifice or burden.

Put in terms of our earlier analysis the test of productivity is satisfied if either a reservation price or a demand price attaches to the good produced.

Reservation prices. — And here we may stop to note another theoretical advantage in stressing the demand aspect of the reservation price; we are able to regard all goods produced in society as goods actually upon the market. Total supply and total product become interchangeable terms. It often clarifies the argument to regard all employers of labor, middlemen or other, and all self-employed laborers, whether or no they sell their product, as entrepreneurs. In any case there is a price upon the product at which the owner would be willing to sell. If his price be above what he can sell it for, he retains the commodity under his own demand.

What products affect the demand for labor. — It is sufficient for the present to note that all this demand for labor — the entrepreneur demand, the demand of the employing consumer, and even, also, the worker's demand for his own work — goes to make up the total price offer for labor. For such labor as the entrepreneur employs he pays wages at the rates which the market imposes; and these wages, therefore, stand as cost items in the computing of his total cost of production.

The rôle of wealth in affording income. — But there are obviously other productive facts than labor. There are, as we have seen, two ultimate sources of income, human activity and human possessions. To say that the individual derives his income from his labor or from his property does not, it is true, take due account of gifts and of gratuitous services of one sort or another — of which more later — but is, nevertheless, accurate in the main. We have now to examine the property sources of income.

If working with machinery gave no larger product than the labor alone, it would not be worth while to buy or hire or construct the machinery. If the quality of the land had

no effect upon the amount of crop that could be harvested, agricultural land could not command a rent or sell for a price. Instruments of production are productive in the same sense and by the same tests as apply to labor; namely, according to the proceeds returned in the price of the product. And as before with the labor, so now with the instruments: it does not matter that the owner of the instruments may consume instead of selling the product. The instruments still have price significance to him, earning him income of valuable goods or saving him an outlay of cash.

Clearly enough, then, the notion of productivity applies to all instruments of production, and to all equipment goods, as the command of rent or of price sufficiently proves. In the competitive sense, productivity really finds its sole test in price. But the class of possessions that return income includes a wide variety of property. Precisely as to help people to keep healthy is a productive fact, a service, so to furnish some one a home to live in, and to keep warm and strong in, is also a service, although attached, it is true, to the possession of a material good. There accrues not merely a money income to the owner of the house but also an income of service from the house to the tenant. It is, indeed, on account of this service to the tenant that the tenant renders a money income to the owner. The books of a circulating library command a hire for the same reason that the lecturer or the teacher or the preacher receives a wage. The rent of talking machines has the same basis as the salary of its human competitor. The passenger coach and the brakeman are each engaged in furnishing transportation. The Pullman in America is for essentially the same service as the cooley carrier in India. The theater building or the concert garden are purveyors of the same sort of service as the actor or the musician. The picture upon the wall gives a continuous reproduction of the *tableau vivant*. In some homes electrical appliances displace the furnace or the stove; or one may warm himself through the kneading or the rubbing of the masseur. In truth **all wealth is such by the fact of rendering scarce services**, and all forms of wealth receive their hire or price by virtue of this power of

service. A durable good is merely the material base of a series of services. Thus a money income from property may be derived from lending houses, pleasure boats, masquerade costumes, horses, automobiles, picture films, paintings. This money income to the owner is the reflection and the proof of the fact that the property renders an income of valuable service to the user. This use is generally paid for according to the time for which the property is lent out; and this is because the services accrue with passing time; that is, they arrive in a time series. The time rent paid by the borrower is the expression of the fact that with passing time a product accrues from the borrowed thing. The rent received by the owner is in turn the productiveness of the thing to him. All durable goods illustrate this characteristic of rendering services with passing time. These services are, therefore, the time incomes of property.

But precisely as it was shown that products need not be salutary or wholesome as socially viewed in order to be wealth, so the durable goods that earn income for their owners need not be things of which the ethical sense of most men would approve. As one may collect rents upon blacking boxes lent to street boys or from hurdy-gurdies hired by Italian street wanderers, so one may rent out finery to deck the vagabondage of women, or may, for hire, supply safe-cracking appliances to men disposed to ply the burglar's trade. Burglars' jimmies are wealth by the very fact of the marketable services that they afford, their proceeds. The rent expresses the fact that the services are marketable. The property earns income to the owner: it is, therefore, productive. Saloon appliances, and the dice and the roulette table of the gambler, are all productive for the purposes of the problem, the earning of an income. *Productive* really means, then, gainful or acquisitive: meaning only this, but implying something dangerously more, it would be a good word to beware of.

Are thieves producers? — But the critical reader may well have protested when, a short time since, the beggar, the gambler, and the thief were included among "productive" laborers. The writers of salacious books and the printers of indecent pictures may readily be regarded as productive after their kind, since their goods find willing buyers. And even the men who delude the people into paying for adulterated foods and drugs, or for shoddy clothes or

trash remedies, or even for poisonous nostrums, may be called productive, since they persuade us unwisely to want the things and to pay for them. Perhaps even the gambler and the beggar must be included. But does the same thing follow for the thief, the burglar, and the holdup man? They neither give us anything for our money nor ask our consent to the transfer which they bring about. On this basis surely a distinction might be drawn. If, however, the distinction be accepted as valid, it must be on terms of denying that many commodities that sell and that bear rents — burglars' jimmies, for example — are wealth; for if the burglar's outfit is wealth by the service it renders and by the rent that it commands, so, also, must the burglar's efforts be admitted to be productive for him and for his private purpose. They achieve proceeds. Private purposes are the purposes according to which competitive activities must be tested. It would be a strange classification which should include as "productive" property the kettle in which Peruna is brewed and the coils in which whisky is distilled, the roulette table of the gambler, the trade tatters of the professional beggar, and the retorts of the adulterating druggist, but which should yet at the same time declare neither wealth nor productive the jimmy of the burglar, the sandbag of the thief, the ship of the slaver, and the brig of the pirate. All absorb capital in purchasing them.

Intangible properties give products. — Nor is the test of the productivity of property to be found in the materiality of the thing that is owned. The individual derives income from personal notes as well as from other investments. Practically all of the assets of a banking or of a trust company are credit items. So patent rights are sources of incomes and hence command a price upon the market. The toll bridge and the toll pike are income earning properties mostly by the legal rights which they enjoy: nor do they take the trouble to ask one's consent to their exactions. So franchises, and good will, and advertising popularity, are important property rights attainable by investment, justifying investment by their return, and commanding a price in the investment market. Money and bank credits — and the credits equally with the money — are income-earning properties to the owner.

Whether incomes imply hiring or tenancy. — Not all of these different sorts of property is the entrepreneur likely

to need to hire at a time charge or to buy outright. Probably the larger share of income-paying properties pay their incomes to their owners either directly in the form of a series of services, or in the form of a hire received from the borrower as consumer of the service. But any of these pieces of property the enterpreneur may hire or buy: and the outlays therefore rank then as one more item of cost within his aggregate of costs.

We are, then, ready to sum up this phase of our analysis: Valuable products are termed commodities or services accordingly as they have or have not durable possessions as a basis. Commodities ready for consumption as well as durable bases of value are termed wealth or property — wealth having some vague quantitative reference to value, property little or none of this reference. Durable forms of possessions receiving a valuation in terms of money, a price, are called capital. **Wealth**, that is to say, is a general and passably vague term for all valuable possessions or property, durable or other, and is distinctly an economic concept: **property** is primarily a *legal* concept, an owned thing: **capital** is durable property or wealth expressed under the price denominator.

Rent distinguished from interest. — Those incomes which with passing time accrue to the individual from his possessions are called now (1) rent, and now (2) interest, accordingly as the income refers (1) to the aspect of its source as more possession or (2) to the *capital* aspect of its source. Thus rent to the owner is the compensation expressed as so much corn or chickens or money paid as the hire of a certain item of wealth. Interest is this same hire rendered into money terms and expressed as hundredths paid for a specified time upon the money value of the possessed capital. Interest, in other words, is compensation computed upon the basis of a dollar-time unit; for example, so many cents per dollar per year. So we may say that the hire of an item of property, say a horse, is $10 per month, or that the rent or hire of a machine is $10 per year. This manner of statement looks at the case from the point of view of the renter, the user. The owner, also, after having deducted charges

for care, supervision, expense, depreciation, and the like, may express the net earning power of the horse or of the machine at $5 per year. This still falls short of the interest statement and is merely rent; only when the owner computes these earnings as a 5 per cent per annum income on a $100 property or upon $100 of capital has he carried the case over into the interest terminology.

An illuminating parallel may be found in the terminology of transportation. How are the earnings of freights running? It will not do to report in terms of so much per ton for the freight moved; this would tell nothing specific until it were known whether the average haul were long or short. And it would mean even less to report that the freight charges were so much per mile, without reference to how much was carried; a certain unit of weight or bulk is needed. But when the earnings are given as so much per ton-mile, the case is rendered over into a common denominator precise for the purpose. The dollar-time unit for capital is precisely such a composite unit: 500 for two years earns, say, $50; 1000 for one year earns $50. Both manifest the same interest rate, that is, the same earning power per dollar-time unit. With money, obviously, or with purchasing power in terms of money, only the term interest is appropriate, although even here interest is sometimes inaccurately called the rent of money.

Are costs restricted to four classes? or directed to the public weal?—The entrepreneur computation of costs includes items other than wages on labor, rents of instruments, interest on the value fund invested, and the entrepreneur's own necessary profits. It is a dangerous inaccuracy to restrict costs to these four forms of charge, although it is true that these are of leading importance. Other costs, as, for example, risk burdens, are to be computed; taxes are often to be included and are of considerable significance; advertising expenses are also to be added; and together with all these, there are a multitude of other items, some of them in different degrees reducible to some one of the four different categories, but rarely if ever entirely so reducible. For example, deterioration charges, or upkeep outlays, or subscriptions to public or quasi-public or even to private purposes — subscriptions made, nevertheless, on grounds

of business expediency — must be included; tickets to the church supper must be bought, contributions to the Sunday-school picnic submitted to, copies of the *War Cry* accepted at 5 cents each. All things which, from the entrepreneur point of view, appear to be expedient expenditure for the purposes of creating either a commodity or a situation of market value, are outlays of capital taking rank as costs of production. When the purchase of machinery is an advisable move in business policy, capital goes into it, as at another time into land or labor; when, in good business policy, a franchise or a patent must be procured, capital is, in either case, so directed as to accomplish the necessary thing. When, for equally cogent business reasons, legislatures or city councils must be bought, the necessary outlays are, for business purposes, precisely like expenditures for machinery or for the control of patented processes. Tramway franchises and sugar-refining tariffs, as privileges obtained in the business process through the expenditure of capital, disclose in the current market prices of the stock the present worth of the forecasted gains. So the expenses of stifling competition are capital outlays, invested as the costs of a monopoly to be obtained; so also the tribute paid to escape cut-throat competition is a capital cost of production.[1] For competitive purposes *product is proceeds.*

Summary: All utility is ultimately a desirable experience. But only when both desirable and scarce can anything attract a price — prompt, that is, the sacrifice of purchasing power either in getting it or in retaining it. Economic income implies, therefore, more than mere utility received; it must be a valuable utility.

All things, situations, or facts, that command for an individual either a money income or an experience which he would pay money to get or demand money to forego, are productive in the economic sense, irrespective of whether the sources are material or the incomes material, and irrespective also of whether the results are permanent or wholesome or commendable, or are consistent, either in the getting or the using, with the welfare of others or with the general welfare.

[1] Cf. Veblen, "Modern Business Capital," *The Theory of Business Enterprise*, Chap. VI.

Productivity must, in fact, be interpreted purely as a competitive category in the price régime. As competitive, the point of view from which to regard it must be the individual point of view, with private gain the sole and ultimate test, and with price as the standard. All labor, therefore, that commands a price, though it be the poisoning of a neighbor's cow or the shooting of an upright judge, all durable goods commanding a rent or affording a valuable service — lands, machines, burglars' jimmies, houses, pianos, freight cars, passenger cars, pleasure boats — all patents, privileges, claims, franchises, monopolies, tax-farming contracts, that bring an income — all advertising, lying, earning, finding, begging, picking, or stealing, that achieve a reward in price, or a return which is worth a price — are productive by the supreme and ultimate test of private gain. The meaning of product is *proceeds.*

The chapter also suggests — what later chapters will further elaborate — that all investment in enterprise for gain is productive investment and therefore *capital.* Rent and interest are equally incomes from capital, rented properties and rental incomes becoming respectively capital and interest, as soon as the property receives a price statement and the income gets expression in terms of a percentage upon the price of its basis. Interest is merely income reduced to a dollar-time unit. Capital is a durable possession expressed in terms of price — the basis of an income accruing with lapse of time. In other words, all durable goods yielding an income susceptible of a price expression are capital by virtue of that income.

The following chapter, somewhat restricting the scope of the discussion, will examine the relations of the proceeds of the labor and instruments employed in a joint productive process to the compensations received by such labor and such instruments. That is to say, the chapter will examine the principles and the process according to which the joint proceeds of several coöperating factors in production are divided — are distributed — among those factors. It will show that distribution, as so restricted, is merely one aspect of competitive production; that the price outlays in the entrepreneur's cost of production are merely the entrepreneur method of distributing among the coöperating factors their respective shares out of the proceeds which they have contributed to

produce; that the process is exclusively a price process and all the terms in it price terms — the joint proceeds price proceeds, the shares price shares; that as the product is the price remuneration to the entrepreneur for his costs, — is his reward, — so the costs are the price remunerations to the employed factors for their service to the entrepreneur in his undertaking; that not only are the costs in the productive process price items, and the distributive shares in the distributive process price items, but that the productive process and the distributive process are the same process, and the cost items and the distributive items the same items. It will then be manifest that each distributed cost is merely the market price of a productive efficiency; and that just as the market price of a consumption good neither expresses its utility nor measures it, and is neither determined by it nor measured by it, so the market price of each productive efficiency cannot express the quantum of that efficiency, is not equal to it, is not determined by it, does not measure it, and is not measured by it. And finally, with reference to productive efficiency, regarded as a specific or definite quality or quantity or attribute or power, it will be shown that there is no such thing.

CHAPTER X

THE DISTRIBUTIVE PROCESS: APPORTIONMENT OF PROCEEDS

The productivity theory. — The problem of *distribution* is the problem of explaining how the aggregate income of consumable goods in society is subdivided into the various individual incomes. With a given total of products to be consumed, how are the shares apportioned? What forces determine the size of each share, and the sizes of the shares relatively to one another, and what is the process of the determination? Why and how does each individual get what he gets? If it is by the degree of his deserving, how much does he deserve? What is known as the **productivity theory of distribution** attempts to show that, under perfect competition, each individual will receive out of the aggregate social income precisely what he has contributed to this aggregate income, his share being thus — it is urged — precisely commensurate with his deserving: what he gets he deserves, and what he deserves he gets. How far the productivity theory, so interpreted, is tenable, whether accurately and precisely, or merely vaguely and generally, and how far the theory, if established, must involve an ethical approval of the processes and results of the competitive system, it will be the task of the present chapter to consider.

Aggregate of incomes equals aggregate of products. — So much as this, at least, must be obvious: What the members of society in the aggregate have to consume depends upon the total of the goods that are produced in society. Every dividend conditions its quotient; the parts make up the whole. With a given quantum to divide — to distribute — if some get more, others get less. Thus the problem of distribution assumes a *distribuend,* just as the problem of

division must assume a dividend. The ultimate distribution of wealth reports merely the different shares or fractions which the different members of society get to consume out of the total product for consumption.

Distribution is a price process. — But it must be noted that the entire process of distribution is a price process. Marketable products are price facts. The sums paid to the factors entering into production are price sums. The distributive shares, apportioned as prices to the factors that have jointly produced a price product, are merely the price costs which the entrepreneur has advanced in the process of bringing into existence a price product. Thus the process of distributing the product is part and parcel of the process of getting it produced. Both the distributed product and the distributive shares out of it are price items. The study of entrepreneur production is, therefore, necessarily the study of distribution, so far, at least, as the distributive process confines itself to the subdividing of a joint product among the factors coöperating in its production. It is, in fact, solely the distributive aspects of the productive process that the present chapter will consider.

Primary and secondary distributions. — Not the less, however, is it to be recognized that the distribution which accompanies production is not the sole distributive process, or even the sole process worthy of study; it is merely the primary process, the process fundamental to many secondary or derivative processes. Many individual incomes are derived immediately from the public treasury by pension, or grant, or sinecure, or by other public gift. But the government collects its revenues directly or indirectly out of individual incomes, as a mere redistribution of incomes already once distributed. So the incomes of the prisoners in the jails or asylums and of the paupers and the hospital patients are of the same sort. In greater or less degree, also, the incomes of most women and children and of the recipients of private charity are to be ranked as distributed under secondary processes. So again of inheritances.

But the pressing problem with us is the primary process — merely, perhaps, because it is primary. How does this process take place, and what are its determinants? What

fixes for any entrepreneur the price-wage that he must pay for labor, and the price-rents for land and other instrumental goods, and the price-charge for the use of his own invested funds? And it merely restates the question to inquire what determines in industry the wage earner's share, the landlord's share, the instrument owner's share, and the fund-lender's share, and the entrepreneur's own personal share of the joint price product. When once we have come to understand the fixation of wages separately, and the fixation of land rents separately, and the fixation of interest rates separately, and all of these in relation to the proceeds derived from them, and all of the foregoing in their relations to one another and in their reactions upon one another, we shall have solved all that is capable of solution in the distributive problem.

The rôle of the entrepreneur. — So much, however, as this is already clear; the entire process is, at every stage of it, a price process in the competitive price mechanism. The finished products get their prices, and the raw materials get their prices, through the typical and ordinary price processes already studied in earlier chapters. So, the wages of labor, the prices of lands and the rents of lands, the prices of machines and the rents of machines, all are fixed through the demand and supply process at the equating point between demand and supply. In the main, then, the process is captained by the entrepreneur, is guided and supervised by him, and worked out through him. It may, indeed, be said to be entirely so worked out and guided, if only the concept of entrepreneurship be given its proper extension. All employers of labor or of instrumental goods for hire are entrepreneurs, no matter whether the prospective product is to be offered for sale or not. If it have no sale price, it is because it has a reservation price; it is still a price product. The client of the lawyer or the patient of the doctor, the master in his hiring of his house servants or his valet, the employer of labor in the raising of garden products for the home table, are all bidders for factors of production and are entrepreneurs for this — and for every other — purpose of economic analysis.

How far is the productivity theory valid? — We are now ready to undertake the examination of the productivity theory of distribution: Is it true that the prices attaching as costs to the productive factors, and constituting the distributed shares of the price product, are received by title of contributing to the existence of the derived price item? We shall see that so much as this of the productivity theory must be both accepted and emphasized. The motive of the entrepreneur is his own gain. It is with this gain in prospect, prompted, induced, and guided by it, that he pays for the things that will help him achieve it, and pays for nothing else. Paying as little as he must, competition will ordinarily compel him to pay not far from all that he can. And as the price product is the motive, so also it is the limit, of his disposition to pay. In essentials, the entrepreneur is a buyer of services and a seller of their products. The sale price is the purpose, the justification, and, in this sense, the cause, of the outlay prices.

The productivity theory, therefore, when interpreted to mean no more than this, is not merely defensible; it is axiomatic. But, fortunately or unfortunately, this is not all of it. It asserts not merely that the distributive shares are the market price of the services — as they obviously are — but also that, if competition be perfect, these distributive shares, these cost outlays, must be the precise and accurate equivalent of the respective contributions of the factors to the bringing about of the price product; that what is paid is not only paid for the services rendered, but is paid in precise adjustment to the amount of the service; that the productivity of the factor is capable of precise ascertainment and of precise comparison with its remuneration, and that from this comparison their precise equivalence is demonstrable. Thus, both ethically and economically, the distributive process in the competitive order is approved and justified. What the factors deserve they get, and what they get they deserve; the results are good; the price process is a righteous process.

Recalling once more the terms in which the distributive process presents itself — the process a price and market pro-

cess, the thing to be distributed an item of market price, the distributive shares each items of market price — and recalling also that demand and supply are everywhere the modes in which the forces bearing upon price attain their final expression, we return again to an examination of demand and supply, as related (1) to consumable products, and (2) to the factors employed in bringing forth the consumable products.

The Prices of Consumable Products

(*A*) *The Demand:*

The mere mechanical details of the fixation of price have already been sufficiently examined. (See Chap. V.) Either expressly or by implication also, the demand for any particular kind of goods has been, for the present purpose, sufficiently discussed. This demand is made up of the different respective maximum price bids which the bidders are disposed to offer for each respective item of the commodity under consideration. When or how the purchasing power was obtained, whether by turning commodities into the medium of exchange, or by gift from other individuals or from the government, or by inheritance, or by theft, or as wage, or as bribe, does not at all matter for the purpose. In any case there is a disposable purchasing power in the form of money or its equivalent.

Fluctuations in the volume of this money demand bearing upon any one consumable product are frequent and occur from many different causes: (1) Changes slow or rapid in the supply of purchasing media, (2) changes in desires, or (3) as the more common cause, changes in the prices of other commodities competing for the application of this disposable purchasing power. Lower price-offers may, for example, be made for potatoes, not because of any change in the supply of them or in the hunger for them, but solely by the fact that bread has become cheaper; or, if house rents rise, there may be the less to pay either for potatoes or for bread. These interrelations are, indeed, many and complicated. Dearer timber may make iron or coal dearer and may make building

lots cheaper. More plentiful supplies of coarse wool may raise the value of the fine wool for mixing, the while lowering the value of cotton. If horses are scarce, this may depress the prices of wagons and raise the prices of automobiles.

(*B*) *The Supply of Consumable Products:*

Changes in supply come about through influences fundamentally parallel to those which cause all changes of demand, only that on the supply side of the case the guiding and adjusting function of the entrepreneur is especially in evidence. As on the demand side the maximum price-offer was arrived at through a comparison of the advantages of buying one thing as against another, so on the supply side the choice of a line of production is ultimately a comparison of the advantages of producing one thing as against doing something else — or doing nothing.

Nevertheless the analysis of supply is a much more complicated matter than that of demand. Not merely have the relative costs of different products to be computed in selecting one's line of production, but comparison must be made of the ratios of these to the selling prices. Thus the relative advantages of a particular occupation as against the most attractive alternative occupation may be affected by a rise or by a fall in the price of the products of either of the occupations under comparison, or by either a rise or a fall in the costs of either occupation. Different influences may, in truth, differently affect all the different items that together furnish the basis of the aggregate costs of either commodity. Lumber costs or fuel costs, for example, may be rising for one product. This rise in lumber or fuel may be due to the diminishing supply of lumber or of coal. Equally well, however, may the cause be found in the pressure of the demand of other industries upon this lumber or upon this fuel. Prices of products in other woodworking industries may be going up, or a diminishing supply of other materials may be increasing the demand for wood — and so on in endless possibility. And likewise all this multitude of combinations finds a

parallel in the process of working out the relative advantages of labor and of entrepreneur ability in different fields, and thereby the varying significance of wages and profits as costs.

The entrepreneur again. — For — let it be once more repeated — all this bewilderment of details and all this complexity of influences reach expression, in a form appropriate to affect the supply and thereby the market price, solely through the entrepreneur computation of costs. From the entrepreneur point of view — the demand being assumed — the relative prices of goods depend upon the relative supplies of goods, and these in turn depend upon the relative costs of goods. These relative costs are worked out by the entrepreneurs in their effort to achieve their maximum gains.

Nor is this entrepreneur method of analysis — this cost-of-production manner of approach — unfaithful to the facts. The difficulty is that, carried no farther than the entrepreneur is concerned to carry it, it hardly more than brushes the surface of the problem of the prices of products and of the prices of the cost items entering into them — the distributive shares. It concerns itself solely with the last item in a long series of causal connections. Its seemingly definitive data are really not much better than interrogation points. In truth, its service to the economist is not so much in explaining prices as in indicating the path along which explanation must be sought. The *ultimate* forces in the problem are, then: (1) the human desires for products, affording motive for the aggregate social product of goods to be exchanged against one another, and expressing themselves, also, in any one price-offer schedule, as the market demand in terms of money for that particular line of goods; (2) the productive capacities of human beings and the instrumental equipment at their disposal.

Thus the relative strength of the different needs of different human beings, working out under the guise of the different price-offers, and set over against the relative difficulty of satisfying these needs, functions as the ultimate determinant in the problem. In its concrete working out in the competitive entrepreneur process, relative costs of production come to determine relative prices. But as included within these relative costs reporting the price aggregate of all the different resistances to the production of each particular commodity, full account must be taken of the opposing influences of other competing demands. In truth, only with a full recognition of the opportunity cost principle does the doctrine of entrepreneur

cost come into working touch with the actual facts of business. Any attempt to explain price by an appeal to the supply side of the market price equation is hopeless, unless on terms of constant reference to the principle of opportunity cost. For commodities in general, and especially for any particular commodity, the motive force behind supply is demand. Cost, indeed, is itself mostly traceable to resisting demands. The alternative uses of the factors promising gain or the alternative opportunities of the entrepreneur resist the particular product. Changes in the cost of production of the particular commodity — which are commonly due to changes in the prices of other commodities — modify the supply of the particular commodity; and changes in supply, resulting often solely from changes in costs, in turn modify the price. Price is a resultant from the forces of demand and supply, but the costs of production which lie behind supply to explain it are themselves in large part resultants from other directions of demand. As ultimate explanation, demand being taken for granted, the causal sequence in the problem runs, therefore, on the supply side of the investigation, from the scarcity of the factor to the scarcity of its product, thence to the high price of the product, thence to the rent or hire of the factor.

The prices of productive factors. — It follows that not even from the entrepreneur point of view are the compensations of the factors to be regarded as the primary and fundamental elements in the fixation of price, but rather as distributive shares received by the different coöperating factors out of the apportionment of their jointly produced price product.

Demand for factors and demand for product. — The salary which the actor or the singer receives is explained in a general way by the fact that there are people who enjoy the theater or the concert. Tuition is paid because teaching is wanted. Waiters and valets command wages because there are people who desire their sort of services. So carpenters are hired and paid because people want houses; textile machines because there is a need for textiles; wheat, grain, and bakers because there is a need for bread. The demand for productive agents and instruments is due to the demand for their products.

Utility of product as related to its price. — But, as we have already seen, the utility of a product, the degree in which an individual desires it, has nothing directly to say as to what he will pay for it. He may have nothing to pay with, being much better provided with needs than with purchasing power. True it is that were the utility lacking, were there no want, there would be no money demand. But it is equally clear that there may be utility without the money demand. And when there is money to pay with, the amount which will be paid for a given sort of commodity is not a question of how much it is wanted absolutely, but only of how much it is wanted relatively to other things. It is impossible to go directly from utility to the individual's maximum price-offer, his money demand.

Nor, were it possible, would the case for the utility explanation of value be greatly helped. The price-offers are many, and the market price is one. Because the buyers are different their maximum price-offers differ. The price actually fixed in the market coincides with only the marginal price-offers, if, indeed, there are any that are precisely marginal. To all the other buyers there accrues a surplus advantage, expressible only as an avoided price outlay, or as a price differential between what might have been paid and what was actually paid. **Buyers, then, do not pay for any commodity according either to utility or to their respective price-paying dispositions.**

And the same line of reasoning holds with reference to the hiring or the buying of agents and instruments of production. If one employs some one to play or to sing for him, it is not necessarily or commonly true that the actual payment coincides with the maximum possible payment. Most people would pay more than they do pay rather than go without the services of the garbage man, the plumber, the cook, or the washerwoman, just as truly as they would pay more rather than lack bread or shelter or clothing or chairs or any one of the many things that are offered for sale. In all cases it is the valuable result that motivates wages; but it does not precisely determine them. Productivity, therefore, is not accurately reported in the market price.

The efficiency — the utility — of a factor as related to its hire. — Not less clear is the same principle in its application to the entrepreneur hiring of land or labor or machinery in the preparation of goods for the market. The actual payment ordinarily falls appreciably short of what would have been justified as a maximum outlay. In practically all of these relations of hiring or of purchase — in all, indeed, but the case accurately marginal — there is a surplus of return in price over outlay in price. Price gain motivates the outlay, but does not accurately determine it. **The rent or the price is the market value of the service for gain rather than the accurate equivalent of it.**

Parallel between production and consumption goods. — The truth is that to interpret the wage or the rent of any factor of production as the precise correlative or equivalent of its gain-rendering efficiency is parallel to regarding the market price of a consumption good as the precise correlative of its utility. No doubt the gain-aiding efficiency of an instrumental good is commonly its sole utility. The difficulty is, however, that this utility for the processes of gain is a different utility for each different entrepreneur. Just as there is no such thing as one specific utility in a consumption good, so there is no such thing as a specific efficiency for gain in an acquisition good. Importance for gain, like utility, is a relation to a particular individual. There is neither gainfulness nor utility at large or socially or generally. Proof of this, if proof be called for, is easily at hand in the ordinary phenomena of the market. The process by which the market rent or wage or price of any factor of production is fixed is not different from that by which a price is reached for any consumption good. The different maximum offers of the entrepreneurs for the acquisition good — corresponding to the different bids of the consuming public for consumption goods — constitute the demand schedule or curve: over against this there is the supply to be marketed. The market price so reached can express neither a specific utility in a consumption good nor a specific power for gain in a production good.

And there is a further difficulty: Precisely as the maximum

price-offer of any particular bidder expresses not the utility to him of any particular good, but only what he can afford to pay for it as over against some alternative application of his purchasing power, so the maximum bid of the entrepreneur expresses not the specific and independent efficiency for gain in the factor, but only the fact that this is all the entrepreneur can afford to pay for it. Possibly the limit of payment may be found in the advantages obtainable from some alternative fact — more land instead of more labor, or more labor instead of more machines or more land, or other labor or land or machinery as against the particular item of labor or land or machinery. Commonly, also, the particular item is needed to supplement and complete a particular equipment already in hand. The different factors of production must work together to achieve their greatest effectiveness. Land without tools, labor without land, tools without land or labor, would return a meager product. It is to this fact of joint employment that most of the product is due. That the factors are brought together is itself the proof of an advantage attaching to the mere fact of their conjunction. How then proceed to attribute to any one of the factors the increase of the proceeds due to the joint employment? So long as either glove is necessary to the worth of the pair, how tell how much either is worth? Which leg of a three-legged stool supports the stool? All that we can say is that if the stool is worth $3, one can afford to pay $3 not to be deprived of any one leg of it. So $2 may be offered to get back a lost glove out of a $2 pair. Thus it is easy enough for the entrepreneur to determine how much he can afford to pay for an item of productive goods or labor to go with his present equipment, but this is not at all to attribute to the extra item all the increase of gain which will accrue with the addition of the extra item. One buys, say a horse, to go with a wagon which otherwise would be useless. But this is not to attribute to the horse all of the result from both horse and wagon. The horse would be equally useless without the wagon. In the last analysis, the entrepreneur himself could not isolate and determine a specific serviceability for gain relatively even to himself, but only that

which he can afford to pay to get the thing or to refuse to keep the thing. And, as we have seen, no one of all these different sums that the different entrepreneurs can respectively afford to pay or refuse has any special title to be regarded as the specific significance of the productive factor.

The argument against the productivity theory sums up then in this: That it is beyond the wisdom of any entrepreneur to make accurate ascription of the efficiency for gain in any one of the business factors jointly engaged in his gain-seeking process; still more is it impossible to regard the remuneration which is accorded to any one of several factors, in its market rental or price, as precisely expressive of its gain-aiding efficiency. As much as the entrepreneur can do is to attribute to each factor a degree of serviceability for his ends commensurate with what he has to pay for it and to treat whatever is left as due to his own personal activity in the quest for gain. But this is crude in theory; his profit is partly due to the fact that he is able to make an intermediate good or agent signify more to him in gain than he has to pay for it in wages or rent.

This reasoning may seem to put in question the strict accuracy of the definition of profit already given — the remuneration of the entrepreneur for his personal gainful activity. But perhaps it may be enough to say that there is in this definition no implication that the remuneration is the precise correlative of the power for gain residing in the individual and separate activity of the entrepreneur. The profit is merely what he gets for the activity.

This impossibility of telling precisely what a factor of production earns may seem to disclose a difficulty in telling precisely what a factor costs; for often it is true that the cost in any particular employment is the alternative gain possible in another use.

But, evidently, what the factor earns in its actual employment and what it could be made to earn in some other employment — its displacement cost — can rarely coincide. The justification for the actual employment is precisely in this fact that there is a difference in its favor. The cost in any given use is the resistance, the debit, against that use. The amount of gain from the use is another matter.

This debit may be (1) merely what has to be paid as hire for the thing; or (2) a sum, greater than the hire, that one could get by renting it out or selling it; or (3) the still greater sum that one could get from it himself in another employment.

It is under this third possibility that the distributive analysis appears to present a difficulty for the cost analysis: if it cannot be told how much the thing produces in its actual use, how tell how much it would produce in its potential use? And if this latter is also impossible, how tell how far the alternative use is to function as resistance to the actual use? The cost, no doubt, is resistance to the process, while distributive shares are remunerations out of it. But in the case in hand, the cost in one use appears to be the distributive share possible in another use. How ascertain how great would be the gain there, in order to tell how great is the resistance here?

But the solution of the difficulty is in the very principle under present emphasis: The entrepreneur can estimate — and, at the margin, must estimate — what he can afford to pay for the thing in the given employment rather than go without it; but this is not to tell how much of gain he expects specifically and independently from the thing, but only from it as one thing present in the total complex — from it in connection with the other things — from it as part of the "togetherness."

Similarly the entrepreneur is able to tell — or to estimate — how much it would signify to him to have the services of the given thing in some other undertaking; but here again, this is not to tell how much is its separate productivity there, but only what it would signify to have it there to go with whatever else is there.

It may of course be clear to the entrepreneur that it is not best in any case to divide his complex — that he must keep it together as a whole where it now is, or transfer it as a whole to some other business; in that case his cost analysis is not concerned with this problem of separate imputation. Equally well, however, he may have to consider whether he shall not rent out some part of his equipment, retaining the rest, or take some share of his funds out of his business for other investment, or call in some share of his other investments for the purpose of enlarging the particular business in hand. He may then have to ascribe a separate cost bearing to a separate factor, — may have to determine what the lack of the thing somewhere else would mean to him. But this is not to attribute to the thing a separate and specific productivity somewhere else.

It is to be freely admitted that the cost doctrine and the cost computation here presented may have small significance for many of the purposes of business accounting. Everything depends on what the business man is trying to get at in his accounts. If his accounting is for the purpose of telling him what the gains from his business *are* — how large is the net balance, he need not be at all concerned to know how much his gains might elsewhere be. The cost account — so called — for his purposes will amount merely to an outlay and depreciation account, and may involve no reference to alternative profits or alternative interest or alternative products of any sort. He is interested merely in arriving at a net balance.

But for the economist the problem is not to arrive at the net gain, but to explain market price and to analyze cost of production as an influence bearing, through supply, on price. For his purposes, therefore, cost, as the key to market supply, must sum up the resistances to the forthcoming of product.

In point of fact, also, the economist's line of analysis is in some cases very important to good business practice. Shall, for example, the Steel Corporation accept a particular order? To decide in the affirmative must imply not only a balance of gain in prospect above the outlays but also that this balance outranks any alternative balance. It is the relative and not the absolute gain that is decisive in most cost problems. So, in striking a dividend balance, cost may mean one thing; but in the making of dividends, another sort of accounting and another meaning for cost must be recognized. Not any sort of a balance, but only the maximum balance, leads to the maximum dividend.

The element of truth. — It thus appears that only in the sense of a large and vague general principle can the productivity theory be adjudged to be valid, and then only in the sense that identifies *product* with *proceeds*. It is, indeed, past question that the bid of the entrepreneur for the services of any factor must find its motive and basis in the added gain result in prospect. It is gain that furnishes the motive of his bid, precisely as it is this same gain that prescribes the limit upon his bid. And in a general way it must be true, if competition is effective and complete, that the entrepreneur pays not greatly less for the factor than what he can afford to pay. Interpreted, then, to mean not more than this, the productivity theory is unquestionably tenable:

but forthwith it is to be added that so interpreted it is as trite as it is tenable — is, indeed, almost self-evident.

The errors and excesses. — The theory, however, goes much further than this to positions distinctively its own. It says that under perfect competition the distributive share apportioned to each factor would be the precise and accurate correlative of its contribution to gain; that the amount of this contribution is capable of being accurately determined, and the coincidence of it with the amount of compensation established. The corollaries are also formulated without compromise or ambiguity: (1) the competitive system is good so far as it is really competitive; (2) as a system, competition contains, in itself and by its own inner necessity, the warrant and the guarantee of justice; if anywhere it falls short of complete equity, there is, in this very fact, proof that somewhere the competitive process has not been carried out to the full. The logic of the system is a perfect ethics. Therefore any other economic order, diverging in its results from what perfect competition would achieve, is by this very fact discredited.

Product must mean proceeds. — For an accurate understanding of the issues involved, it must first be recognized that the productivity under consideration means, and can mean, nothing more than private gain in terms of price — proceeds. When the entrepreneur pays a wage or a rent, he really pays for the result that he hopes to attain. It is to get an increment of price that he consents to undergo a price outlay. It is this price increment that sets also the outside limit upon his disposition to pay. This productivity theory appears, then, to declare that what the employed factor gets is what the employer can afford to pay. In fact, he does not always pay thus much. But it is in any case clear that only a product in terms of price can serve as a motive or a basis for a price outlay. No one pays or gets paid for the doing of a thing that is merely useful.

Employers' surpluses. — Whether there is any other test of the service for gain attaching to a day's labor than the market price that the labor commands — whether, that is

to say, the theory does not determine what the labor accomplishes by finding out what it gets, as the basis for the conclusion that what it gets it accomplishes, is a question which must for the moment be postponed. If, however, the theory be taken to assert that under perfect competition the employer would have to pay as wage or as rent all that he can at the outside pay, the defect in the theory lies in the simple untruth of the assertion. Entrepreneurs, as we have seen, differ in skill and in the direction of their skill. The actual hire of any serviceable fact, even if precisely coincident with the maximum bid of some one competing bidder, is altogether unlikely to be coincident with the maximum bid of the successful competitor. All that the latter needs pay is enough to outbid the next strongest bidder's bid. There may be, and commonly is, for the successful bidder, an appreciable differential between the possible bid and the actual bid. One housewife, for example, gets good service cheaply from a maid that no other woman can get along with at any wage. Stonewall Jackson's efficiency as a corps commander was in no small part in his peculiar adaptation to the needs and the abilities of his particular chief. One foreman gets excellent results from one man, and entirely fails with another and perhaps a better man. You like the man that I dislike and dislike the man that I like. Efficiency is a quality only in the sense that it is a relation: it is a different relation to each different entrepreneur.

And even when there are a large number of similar production goods to be sold or rented, the price or hire that each can command will not depend upon any specific efficiency of each item or of any item; for with every change in supply a new efficiency must attach.

And even if this difficulty be met, something more serious is in waiting: for if the successful bidder for the isolated item, or any successful bidder for any part out of a stock of items, were to withdraw from the competition, the selling or renting price would necessarily fall. A new marginal adjustment would be arrived at at a new — and another — so-called specific productivity. But this must imply that the larger significance to the out-bidding entrepreneur was due

in part to *his* presence: it was a gain-giving significance relative *to him* and greater than the other significances by reason of this special relation to him. But if the "productivity" differs as different entrepreneurs are present or absent, and differs with each different entrepreneur, it is clearly not a "specific" productivity. It is relative, precisely as all utility is relative.

The productivity theory may plausibly be rested either on the uncritical assumption of the fixation of price by marginal utility, or of the existence of the social organism. The two assumptions are really one, inasmuch as the first of these doctrines can have no possible standing unless upon the assumption of the second — and no very tenable standing even then.

Assume, however, as a premise, that the price of a consumption good is determined by its social marginal utility, or is somehow commensurate with it. Productive goods or services will then be paid for, it is argued, in direct ratio to their services in the production of the socially valued products; the remunerations are derivative from social marginal utility, and accurately express the contribution to it. The steps may then be reversed to show that the price of the consumption good expresses, in turn, its marginal utility. The production goods are now taken to be remunerated according to the social utility of their services; these remunerations are costs of production; the goods sell as determined by their costs; therefore they sell in proportion to the social utility inhering in the factors of production to which the products owe their existence. Thus, granted the social marginal utility explanation for the prices of consumption goods, one may deduce the social productivity theory of distribution; or granted the social productivity theory of distribution, the social marginal utility of consumption goods may be equally readily deduced.

The ethical inferences. — But another and even more serious difficulty attaches to the productivity theory in its strictly ethical aspect. Nothing, indeed, so far urged disturbs its reasoning for its larger and more general economic bearing. And nothing will so disturb it, purely as an actual, but unprecise account of the entrepreneur process and of the entrepreneur purpose. But it remains true that all the bidding is entrepreneur bidding and is for entrepreneur

purposes. Therefore the "productivity" that has to do with the present analysis is not a productivity according to the test of social welfare, but only of private gain — proceeds. There is no necessary implication of merit or of deserving or of social service. What the entrepreneur can pay and will pay has to do solely with the advantages to him in his pursuit of gain in terms of price. The wage is earned if the work is of a sort to bring an adequate price return to the employer. It does not matter whether the process be one of adulteration, the compounding of poisons, the writing of advertising lies, the drawing up of false affidavits, the circulating of libels, or even the commission of murder. In the strict logic of business, distinctions of this sort do not exist, and the terms to express them are mere irrelevancy or vituperation. And even when distributive justice may be in some sense attained, it must be solely a justice between employer and employed. Society is not a participant in the distributive equity of competitive business.

Property and deserving. — And further: even if the rent, say, of land, could be shown to be accurately, or in some approximate way, the correlative of its productivity in terms of price, this would be worlds away from justifying the payment of the rent to any individual. Assume it for the time being as true that the entrepreneur always attains his ends of private gain through ministering to social welfare: assume, that is to say, that the land rented by him contributes not to the store of alcohol, or of nicotine, or of opium, but to the supply of barley for the making of bread. Let the rent be paid and let it be neither too much nor too little. But paid to whom? The justification of the private ownership of land is surely not to stand or to fall with the proof that the rent of the land no more than offsets the productive service attributable to it. This question of the reasonableness of the rent concerns solely the tenant as against the owner. Take it that the rent is really just: it is entirely another question whether it may justly accrue to any private individual. So, likewise, with all instruments of production, social capital, and their hires: even were all private capital also social capital, and even were the owners of this

capital receiving less than the productive contribution of their properties, the collectivist program would not be appreciably the weaker. It would still be open to the socialists to denounce private ownership in the means of production — perhaps even the more vigorously that the entrepreneurs were able to hire their equipment so cheaply. Not the necessity or the nature of rent and interest, but the private receipt of them is the controversial question. There is danger in mixing ethics with economic doctrine.

We have seen that the distributive process involved in entrepreneur production is not the only distributive process in society, but is the primary and fundamental process; that it is the same process, under another emphasis, that we have already studied under cost of production — the outlays in the entrepreneur's computation of costs being distributive shares from his product; that as the costs are price items, and the product a price item, so equally are the distributive shares price items — the distributive process a price process, and the distributive shares accruing to the factors merely the prices which, by virtue of their gainful significance to the entrepreneurs, the factors have obtained through the bidding of the entrepreneurs; that the process by which these prices are attached to the productive factors is the same market process of the equating of demand with supply that we have earlier analyzed for consumption goods; that precisely as the demand price of a bidder for a consumption good does not express its utility to him, so the demand price of an entrepreneur for a production good does not express its productivity to him; that precisely as the market price of a consumption good is not commensurate with any but the marginal bid for it, so the market price of the production good is not commensurate with the paying disposition of any but the marginal entrepreneur, and then only at his marginal bid; that as the entrepreneurs are different, so must the significance of the productive good to each be a different significance; that therefore no such thing as a specific productivity is possible; that all productivity must be relative precisely as all utility is relative.

And further: All that the bid, marginal or other, of any entrepreneur, marginal or other, can report is the maximum price which he can afford to pay for the particular productive

item rather than go without it; but that this bid cannot express the productivity of the item to him, since the factors do not function separately but together, the productivity of each depending therefore upon the presence of the others; that therefore the productivity is never the separable and specific productivity of each, but only the joint and inseparable productivity of all together; that thus, with several different factors coöperating together to a common end, it is not true that the maximum payment of any entrepreneur expresses the specific productive power attaching to the factor in question, but only the loss of productivity which would attend the withdrawal of the factor — a loss partly due to the reduced efficiency of the other factors. No one, therefore, of all the different competing entrepreneurs is capable of isolating accurately the productive efficiency of any one factor, or of giving to its productivity a precise expression, even for his individual purposes and for his own price bid. Still less can market price express any separate and isolated and specific productivity. No distributive share, therefore, accruing to any factor is the precise equivalent of its productive efficiency, but is only the market price of this efficiency.

And finally: Even though it were established that precisely what a factor produces it gets — that precisely what the entrepreneur pays for it, it, or rather the owner of it, deserves from the entrepreneur — all this would fall far short of justifying competitive distribution — would, indeed, be in the main irrelevant to that issue: (1) the motive of the entrepreneur is his own gain. Service to him may be a service to society, or may be neutral to society, or may be a social disservice. The several distributive shares may be the separate remunerations of several associated iniquities, and the derivative product may be itself an ultimate and supreme iniquity. (2) The actual distribution of each particular product, and of products in general, is in large part conditioned on existing property rights in the factors of production. The rent of land accrues not to the land but to the landlord — the rent from the machine or the patent, not to the machine or to the patent, but to the owner of it. Therefore to establish the equivalence between deserving and receiving, it must first be shown that the present property institutions of society are righteous in every particular — inheritance, property in land, property in franchises, and all the rest.

The next chapter will show that the different factors of production, for the use of which or for the purchase of which the entrepreneur must pay a price, are not three or four, but legion; that consistent classification of the raw materials and of the instrumental goods employed in the productive process is both purposeless and impossible; that such outlays as are made for raw materials and labor and instrumental goods, while cost outlays, are not all of the cost outlays; that taxes, insurance, advertising, and a host of minor items must be included; that there are still other resistances to be computed which yet are not outlays: for example, discomforts undergone, alternative profits foregone, risks incurred; and that in addition to all these costs there must be computed an interest charge on the total invested operating fund.

It will be shown also that all durable possessions for which rents are paid or incomes received are equally bases of costs when these possessions are employed by the entrepreneur; that, for cost purposes, no distinction is either relevant or possible between land and other instrumental goods, or between land hires and other hires; that all durable possessions are equally capital, and that, when employed together in the productive process, all have the same rank as costs and the same bearing though cost on the price of the product; that when not functioning together in the productive process, but returning incomes separately to their possessors, all these possessions remain capital by the same title of the incomes which they command; that as one's fund of money or of purchasing power is capital, so all the income-earning possessions in which any of the fund is invested must also be capital — land equally with all other durable possessions; that it does not matter for the purpose whether one leases his house and lot for rent or occupies it, rides his horse or employs it in his livery business, eats his chickens or sells them, consumes the eggs or markets them; that the proof that all durable possessions earn an income, and are therefore capital, is to be found in the fact that the possessor invested his capital funds to get them, or pays interest on the purchase price to enjoy them, or foregoes, in order to keep them, the capital funds which the selling price would bring him; that just as the funds in hand are capital by virtue of their earning power, so all goods which absorb the fund because their incomes are preferred to the income from the fund, must be capital by the same test.

Incidentally to establishing the foregoing positions, the chapter will discuss the various attempts which have been made to distinguish land from those other instrumental goods which are admittedly capital, by distinctions (1) of origin, (2) of degree of spatial mobility, (3) of degree of specialization in employment, (4) of degree of fixity in point of supply, (5) of prospect of future modification in supply, (6) of the relations of supply to cost outlays, distributive shares in general, and prices of products. It will be made clear that this untenable distinction found its way into economic reasonings through the necessities of the labor theory of value, which holds either (1) that the relative prices of products are determined by the relative amounts of *labor* applied to their production, or (2) that these relative prices are determined by the relative outlays for *wages* incurred in production; that, for the purposes of either interpretation of the labor-cost doctrine, it was necessary that the rent of land be somehow distinguished from other rents, and be interpreted as a result of price rather than as a cause — as a "price-determined," rather than as a "price-determining," outlay.

CHAPTER XI

THE DIFFERENT BASIS OF COSTS AND OF DISTRIBUTIVE SHARES

The different directions of cost outlay. — Whether one is producing for sale or for his own consumption, he commonly finds it wise, and perhaps even necessary, to adopt a varied direction of investment. For the farmer there are lands, buildings, tools, machines, repairs, seed, fertilizer, labor, insurance, taxes, and the like, to be provided for. Together with most of the foregoing costs, the manufacturer may have outlays to make for raw materials — some of them shoddy — for light and heat and ventilation and water service, for the expenses of traveling men, for advertising by newspaper or circular or billboard; and there may be also expenditures such as royalty payments, or as contributions to the expenses of political campaigns. To most of these expenditures the merchant will add outlays for the expenses of window decorations, of rest rooms, of sumptuous fittings, and of donations to all sorts of public undertakings. The contractor in public work may find himself required, as part of his necessary expenses of getting on, to make an occasional settlement with the city councilman, the political boss, the policeman, the inspector.

And together with his other costs each of these entrepreneurs will include a charge for his own personal services. And all of these costs — with the exception of his personal remuneration, his profit — will be paid for out of the entrepreneur's funds, whether owned or borrowed. All of these costs are price outlays in production, for the purpose of achieving a price return in product.

It is then clear that to summarize costs as restricted to four classes (1) rent of land, (2) interest on capital, (3) wages, and (4) profits, is to render both an incomplete and inaccu-

rate account. There are other costs, as, for example, outlays for royalties, taxes, and insurance, — costs that fit awkwardly or worse into this fourfold classification. True, these outlays are made out of capital. But this does not differentiate them; so are all the other outlays, whether for the wages of labor or for the rents of lands and appliances. Indeed, even the interest on borrowed funds must be paid out of capital. To appeal to the sources of the outlays must avail rather to cancel the classifications than to establish them.

But the account fails in something worse than mere lack of exhaustiveness: even for what it covers, it is inexact. The main cost categories are indeed four, but they are not (1) wages, (2) profits, (3) rent of land, and (4) interest upon capital. Rather they are (1) wages, (2) profits, (3) instrument rents, and (4) interest (time discount), — this last being merely a charge for the total capital investment employed, computed upon the basis of the dollar-time unit.

Instruments as absorbing capital; the hires as costs. — That is to say, among all his different lines of investment, the entrepreneur finds it to his interest to place himself in possession of various sorts of tools, machinery, and lands. No one of these is more than another an aid to him in his gainful undertaking. No one of the outlays imposed upon him is more or less than any other the necessary condition to his enjoyment of the attendant advantages. Each of these outlays equally with every other must be reimbursed in the sale price; else he must decline to maintain his product, either restricting, or even abandoning entirely, his contribution to the market supply. To buy or hire land calls upon him for an investment of capital just as does an investment in tools and machines. The return upon his investment in land equipment is a remuneration for a capital outlay no less than is the return upon machine equipment.

Is land capital? — How far, then, and for what purposes, is it worth while to divide these equipment goods, these instruments and appliances employed in the productive process, into two great classes, (1) land, (2) capital? Why is not land merely one kind of capital? or why, if land is

to be distinct from capital, are there not as many different classes of land as there are different kinds or grades of land? What, in truth, is land, and what is capital? What are the distinguishing marks or tests? What purpose does the distinction serve, once it is accepted? These are neither new nor easy questions. In the history of the science, they have been prolific of long and bitter controversy. They still divide the science into distinctly marked and opposing schools of thought. This main and central problem involves a host of subordinate issues. The solution will turn out to be decisive of not a few important doctrinal corollaries.

What, then, is capital? — The earlier doctrine, still a long way off from general abandonment, distributes the sources or causes of wealth into three great classes, called factors of production, as follows: (1) labor, the human element, (2) land, the original environmental situation, and (3) capital, the productive equipment supplied by man and ranking as part of the present environment — differing, however, from land in the fact that capital is produced equipment, while land is here by original natural bounty. Thus land and capital are held as separate divisions of the environment, together comprising the aggregate of those things that serve as aids or auxiliaries in the productive process.

The later view — the view which will be presented here as the preferable and, indeed, as the only tenable view — conceives *capital* as including *all durable and objective sources of valuable private income.* This latter doctrine declines, therefore, to restrict capital to the raw materials, tools, and implements employed in the technological, mechanical, industrial process of getting goods upon the market. It includes, it is true, without demur, all of these things, since all are income-gaining to the owner; but, for the same reason, it includes also land.

And this later view does not stop here; many other sources of private income are likewise included. Capital is made to comprise every durable item of private property, by virtue of the fact that every item of durable private property must be a source of income to its owner; else it could not be valuable, and, valueless, could not be property. All possessions,

then, that in any way serve the individual's end are ranked as capital by the sheer title of their productive significance, their rendering of income to their owner.

Thus anything that earns a rent is capital, whether it be land or a machine or a pleasure boat or a patent right, or a franchise right, or a monopoly — it being essential only that the thing in question be something durable that pays. Nor does it matter whether it pays by being rented to someone else or by being used by its owner. Equally, in either case, it pays. So one's own dwelling house is capital, or the pleasure boat that one uses for his own recreation instead of renting it; one's horse that one drives, as well as the horse in the livery barn; the furniture that one uses, as well as the furniture with which one equips a rented room or house. The view here presented holds, then, that capital comprises much more than mere industrial equipment, even after land is included; that instrument goods are capital merely as one sort of source of private gain; but that the ultimate fact that establishes any item of property as capital is this fact of rendering an income to the owner — *a durable, objective source of valuable private income.* Rent is therefore one manifestation of interest, and whatever item of property, land or other, earns it, is thereby capital. It is necessary merely that the source of the income have a price ascribed to it and that the rent which it earns be stated in terms of a percentage upon this price, and forthwith the capital and interest relation stands forth clearly.

The test of capital. — Anything, then, that earns rent or interest or that affords valuable service with passing time is capital. *Capital* and *interest* are correlative terms. The objective source of income is capital: the income from capital is interest. Thus, a credit against one's neighbor, or a bond against the government, is capital merely by the fact that either commands an interest income. So of good will, patents, trade marks, franchises, monopolies.

But why so much ado? Does it at all matter? If roses do not altogether depend for their smell upon their names, need it signify, excepting to avoid the confusion of various tongues, whether any

given thing, or class of things, is to be termed capital? and particularly, why should irreverent innovators insist upon their especial novelties of terminology and upon attacking and reforming the dictionary?

How far the controversy matters must, in large part, await an answer in the further development of the discussion. Historically, at any rate, although perhaps in strict logic not necessarily, this distinction between land and capital has been the controlling distinction in economic doctrine. It underlies the question of the relation of land rent to cost of production and to market price. Thereby it is the central doctrine in the classical theory of distribution. It was the controlling doctrine in the labor theory of value.

How, indeed, did any one ever come to hold that the prices of goods are, either as matter of fact or as matter of tendency, proportional either to the wages or to the labor applied to their production? Surely these prices are proportional to the entrepreneur costs of production, by virtue of the close attendance of supply upon cost. But among these entrepreneur costs there are rents of land, as well as hires of machinery or outlays for raw materials. Some of the bushels of wheat produced upon good land absorb little labor, precisely because the land is so good. Other bushels are more and more laboriously produced, as the particular tract of land is harder and harder pushed for product, or as the new lands cultivated become poorer and poorer. Yet all bushels of one quality bear at any one time the same price, despite the inequality in the labor applied or in the wages paid. And the same thing holds with the products of machinery — the poorer the equipment, the more the labor; but there is still one price for the products. If prices were to be made proportional to the labor applied or to the wages invested, something had to be done.

Capital viewed as stored-up labor-cost. — But this something was done. All capital goods — tools, machines, and the like — were explained as merely so much stored-up labor, or as the stored-up wages paid for it; the capitalist, as a laborer gone to seed; and thereby the product of capital as indirectly the product of the earlier wage-paid labor; interest being thus mere indirect wages.[1] It was implied in this that the interest payments are for mere wear-out of the principal invested, and that the sum of all the interest payments upon a given investment can normally or regularly equal only the original capital sum invested in wages; and

[1] See *e.g.* Taussig, *Principles of Economics*, Vol. I, pp. 75, 77. (Or *infra*, p. 373.)

that sometime a given capital investment must cease its career of earning interest. But observation and experience combine to declare all this an error. And there was a still further difficulty — a difficulty fully recognized but still not met — of explaining the added value going with aging wine, or the growth in price of the sapling reaching up to become a tree. But such as it was, the view commanded a fairly general acceptance.

Thus all capital having been traced back to labor, and all interest reduced to indirect wages, the doctrine that the prices of things are proportional to the contained labor — or to the wage outlay — was appreciably advanced. There remained only the difficulty of eliminating land and its rent from the determination of price. This was achieved by declaring that while interest and wages are causes of price — are price-determining costs — rent is the result of price; that "corn is not high because rent is paid, but rent is paid because corn is high" (Ricardo); that prices are fixed by the marginal cost of production; and that this marginal cost takes place on land for which no rent is paid, land barely worth cultivating without rent, land at the margin of cultivation.

Margins and marginal cost. — This view of the case gained some support from the fact that the market prices of agricultural products, like the market prices of all other products, appear to be commensurate with the marginal cost of production, rising as it rises, and falling as it falls. It was indeed clear — as it is still clear — that, as the marginal cost is greater or smaller relatively to the costs of other goods, the supply is relatively less or more, and that therewith go corresponding changes in the price of the product. No difficulty was felt with the problem of causes, or with the premise that it is the marginal cost rather than the total supply of product that fixes the price, or with the implication that the cost of production, inclusive of the rent, is lower upon supra-marginal land than upon marginal land, or with the assumption that the marginal producer is necessarily a producer upon rentless land. The rent was declared a surplus of product above cost, rather than a payment imposed upon the cultivator by the sheer fact that without this payment his cost would be exceptionally low, and his margin of surplus, of product above cost, unaccountably great.

But note now that this earlier view made it possible to regard interest as a cause of price and rent as a result, only upon condition of sharply distinguishing land from other productive equipment, and of establishing, for cost purposes, a clear line of separation between the hire of land and the hire of capital goods. And note

again that it was only upon this basis of excluding rent from price-determining cost that the proportionality of price, either to labor pain alone or to wage costs alone, could maintain even the semblance of validity.

It is therefore imperative to examine the arguments offered in support of this distinction between land and the other auxiliaries of production, and between the rent of land and other rents, as related to cost of production and to market price.

Natural and artificial instruments. — It must at the outset be admitted that even upon the assumption that all the different sorts of productive equipment are to be included within the capital classification, there still remains the possibility of distributing these different instrumental goods into two large classes: (1) those originally here as bounties of nature — natural capital — and (2) those that are here as additions to the original environment — produced facts, artificial capital. It was, then, only the goods falling within the second class that the earlier view accepted as capital, — the formulation expressing this view running that capital is all wealth, other than land, employed in the production of further wealth.

This view evidently conceives capital as a subhead under *material* wealth, as, in logical consistency, must be true of any view that restricts wealth to material goods and that interprets productivity as meaning merely a contribution to the bringing forth of material product. This earlier view, indeed, regarded capital from the point of view of social productivity rather than of private gain. Yet somehow, from this social point of view, it excluded from the notion of capital the land share of the social equipment for productive purposes. The economic process was conceived as a strictly industrial, technological, and mechanical process — not primarily the creation of values, but the creation of things. So the different factors of production fell into classes strictly determined by their technological relations to a strictly mechanical process. The mechanical, concrete, industrial equipment at the disposal of human energy — human energy being also mechanically regarded — was divided into two great classes, *i.e.* land equipment and equipment other than land; corresponding in general to the distinction between the extractive and the non-extractive types of industry.

Functions *versus* origins. — Now while this classification by origins must be admitted as possible, — if only the origins were ascertainable, and if at the same time it could make the slightest

difference to any man what these origins were or were not — the difficulty still presents itself that the mechanical and industrial functions of productive factors have not the slightest relation to this matter of origins. Not the extractive industries alone, but all industries, employ land, precisely as all industries under present conditions make use of equipment other than land. Nor even as a distinction of degree does this classification by origins parallel any distinction relevant to technology. Some of the extractive industries, mining, for example, are pronouncedly, even prevailingly, capital-using in their technique; even the most simple extractive industries make appreciable use of instruments other than land. It is, however, none the less true that not merely food and raw material, but building sites, standing room, air, climate, scenery, neighborhood, and so forth, are markedly and emphatically of land character or of land origin. And it is equally unquestionable that capital goods achieve some things not attainable through any possible substitute, precisely as other commodities are in a peculiar degree, or exclusively, dependent on labor. You cannot have timber from labor or capital; neither from land nor capital will you get a skirt dance; and if you desire a certain peculiar quality of screeching, you must resort to a phonograph or to a calliope as against any form of land or labor.

But note once again how illogical in its technology all of this is; for while it is true that labor and capital, when denied recourse to land in the unpriced and purely concrete and physical sense, will yield no timber, it is at the same time true that they will give timber plentifully enough if strictly limited in their application to valueless land, that is, if confined to what, in the economic and value sense, is no-land. And some day the technology of timber production may make of timber a laboratory product.

Technology as test. — And it is all the while to be remembered that these technological differences and specializations, while of unquestionable actuality, are, in fact, as marked between one item of land and another, or between one item of capital goods and another, or between one laborer and another, as between capital goods and labor, labor and land, or land and capital. For market purposes agricultural machinery is more closely akin to wheat land than to machinery for producing watches or chronometers; cotton lands are, from the same point of view, more like sheep than like timber lands or iron lands or wheat lands; in point of products, violin and sea are not more unlike than virtuoso and sailor, or than prima donna and stoker.

In truth, also, if productive factors are to be distinguished accord-

ing to technological considerations, not two or three but countless categories of productive factors will have to be recognized.[1]

Origins as test. — But even were the question of origins relevant to the technology of the case, the distinction would remain entirely hopeless of application. It leads nowhere when attempt is made to apply it. From among all the changes of all the ages, who can undertake to tell what environmental changes have been due to environmental processes as against human agencies? What part, for instance, of the fertility or the infertility of the land has been due to its treatment at the hands of man, to his fertilizings, his exhaustings, and his denudings? What part to fostering or wasting winds, to corals, to birds, to bugs, to worms, to microbes? What share of the value of the house traces back to the timber values of the natural forest, and what part to industrial processes? Even with the case of machinery, the typical form of capital, human wisdom would fall far short of distributing the final value between the original ore value as against the labor value, the coal value, and the timber value. Nor, for any one of these various shares, would it be possible to determine how far land rents, as expressed in warehouse and transportation charges, have counted in the case. And finally, if any one could accredit either the land or the warehouse to its particular origins, is it to be supposed that, as shares in the total hire of the machine, the remunerations would forthwith, either in the collective or in the competitive reckoning, take on a new relation to the cost of the product or to its price?

But in the larger social, historical, and philosophical view, the distinction remained still valid — only that it was not valid for any purposes of competitive entrepreneur activity, or for any problems of market value and price, or for the analysis of the com-

[1] "The grouping of the factors of production into the three classes, labor, land, and capital, is by no means final. There are various kinds of labor, of land, and of capital. Two different kinds of labor may be performing functions which differ almost as widely as those performed by labor and capital, or by labor and land. The work of a bookkeeper differs as widely from that of a ditch digger, as that of a ditch digger does from that of a steam shovel. Therefore, the same reasons which favor the separation of labor and capital, in order that they may be treated as distinct factors, will also favor the separation of one kind of labor from another, of one kind of capital from another, and of one kind of land from another." Thomas Nixon Carver, *The Distribution of Wealth*, New York, 1908, p. 85.

petitive distributive process. It was, however, unfortunately assumed, and still is commonly assumed, that what is true for social purposes holds also for the competitive analysis.

But other arguments were, and still are, urged in support of the distinction between land and other equipment goods. The following is a summary of the entire position as presented by one of its defenders. "In many essential respects land and capital take different ways. (1) The former is immovable; the latter, for the most part, movable. (2) The former is a gift of nature; the latter, a result of labor. (3) The former cannot be increased, the latter can be. (4) The landowner has a social and economical position essentially different from that of the capitalist; property in land is justified on essentially different grounds from property in movables. (5) Land is the special object of a kind of production which is economically distinguished by many important peculiarities. (6) Income from land, while subject to many laws in common with income from capital, obeys many distinct laws of its own — land rent, for instance, rising with economical development, while interest falls. On all these considerations, the number of which might easily be increased, it is most convenient to keep land quite distinct from the other kinds of productive wealth." [1]

(1) As to **the immovability of land: and the movability of capital:** Even were the immovability of land a fact, it would be irrelevant. But it is not even a fact, otherwise than as a spatial or geographical matter, and not altogether true then. Many of the improvements made upon land, or incorporated with it, are equally as irremovable as the land itself: wells once dug, improvements in mines or upon waterfalls, are prone to stay where placed; so, also, are office-buildings. On the other hand, by carting loam or by grading, by the filling of swamps or water fronts or marshes, to say nothing of the action of wind and tide and wave, the seeming fixity of land is appreciably disturbed. And the mere question of immovability as a simple matter of superficies or of extension is not to the point: for in its aspect of effectiveness for production, its technological significance, land can be worn out, displaced, or renewed as readily as other instrumental goods, and sometimes much more quickly. Most New England land cannot be cropped beyond five or six years without renewal through fertilizers, unless upon terms of the land becoming fit only for pasture. A linotype machine, on the contrary, has a life of several decades without serious need of repair.

[1] Eugen v. Böhm-Bawerk, *Positive Theory of Capital*, p. 55.

Nor is the specialization of the instrument to the production of any one product more marked with land than with machinery. Some machinery — much machinery — is serviceable for only one purpose or in only one line of production, and is only at great, or even at entire, loss to be moved to another plant, to say nothing of employed in another industry. And this is true in varying degrees of all the different forms and conditions of capital goods of land and of labor. And practically all lands and all other instrumental goods are mobile for the purposes of the individual owner in the sense that they can be realized on in the market. This last, however, it must be admitted, is not a technological mobility.

(2) **Origins.** — That land in its original condition is or was a gift of nature must, as we have seen, be taken as unquestioned: but so equally of diamonds and timber and coal and iron; and in any case the point is not relevant to a technological classification of productive factors.

(3) **Terms of supply.** — There is more in the notion of the relative fixity or inelasticity of the land supply, as a question not of what actually is, but of what is likely to be, — the economic prospect socially viewed. But none the less is the amount of machinery at any one time as fixed and definite a fact as the amount of land; and there is always enough of either so that any individual can always get all that he has occasion for. He has only to pay the price or the rent. For any one individual or for any one productive undertaking, there is no limit upon the supply. It is then irrelevant to the individual interests that the supply, either of machines or of land, is, at any given time and as an aggregate, a limited supply. And were it relevant, the effect of limitation holds equally for machines as for lands. At any given time there is what there is of either, no matter how either may later change. Note also that the limitation applies in the same degree and in the same sense for the supply of human beings and their labor. This fact, however, has never recommended itself as justifying the exclusion of wages from cost.

But, even if this prospective scarcity or dearth of land could be accepted as a certainty, is there good ground for asserting that the rent which the land bears to-day is any the less a cost to-day? If it were proved, or otherwise accepted, that labor is likely to get more scarce, would this suffice to exclude present-day wage outlays from present-day costs? Must every basis of cost promise with certainty to function as a still greater cost in the future, in order that it function as a cost at all now? Must it be twice a cost in order to be once a cost?

But, after all, it must be noted of this prospective land scarcity (1) that it is all a mere matter of prophecy, and (2) that instead of approaching, as is ordinarily assumed, to a moral certainty, it is not much better than conjecture. The past three or four hundred years appear to have presented the phenomenon of increasing land plenty relatively to labor and capital. With the forces of exploration and of developing transportation, new supplies of land have far outrun the increase of population. Elasticity has, indeed, in a surpassing degree — probably, it is true, hardly again to be duplicated — characterized the supply of land. Capital meanwhile appears not to have increased beyond the expansion of the demand afforded by the increase in the supply of land and the growth of population; since interest appears to have been, in some countries of Europe, as low one hundred and fifty years ago as to-day; then, with advancing capitalistic opportunities, to have risen; later, with the progressive exhaustion of the new opportunities offered by increasing population and enlarging land supply, to have fallen. Thus, while a future shortage in the supply of land looks probable, it is not at all certain. For aught we know to the contrary, chemistry may sometime solve the problem of food production without recourse to agricultural methods. The secret once learned, the nitrogen in the air of the back yard and the ton of coal in the bin may furnish food for an ordinary family for a year. And it is to be added that in the future, as in the past, much will be accomplished by improving transportation to mitigate, if not to prevent, the conjectural dearth of land.

And even admitting the general validity of this forecast of the inelasticity of the land supply — as probably, indeed, we ought — it is the more important to recognize that expanding knowledge (development in the human factor of production), or improving transportation (development in both the human and the capital factors), may function technologically as substitute for land. Bettering transportation *is* more land; true, geographically speaking, land is not made; but accessibility is made, and upon an enormous scale; land sufficiency, like land value, is in large degree positional.

But further: if, as technological facts, these probabilities of change are taken to justify, for purposes of economic theory, a separate category of land wealth as against other wealth, there is forthwith to be undertaken an indefinitely large task of further classification or of subclassification. For while grain land may be becoming seriously scant, range lands, or champagne lands, or mines, or fisheries may become more plentiful or more

accessible. So, also, while the provision of wooden implements is becoming increasingly inadequate, the different sorts of machinery and tools of metallic material may be growing progressively cheap; and meanwhile electrical apparatus is likely to abound. And similarly for the human factor; as one kind of man, say the athlete or the unskilled workman, is becoming relatively more scarce, doctors of philosophy may more than generously multiply.

(4) That the **land owner has a peculiar social or political standing** is matter neither of economics nor of technology, but solely of ethics or of law or of politics — or perhaps of sociology — unless, indeed, these social and political advantages are themselves ranked as valuable economic incomes. It may well be true, however, that the distinction between earned and unearned wealth, between wealth socially created and wealth individually created, needs to be drawn as bearing upon the justifiable limitations upon private property or upon the direction in which tax reform may be wisely sought. But the distinction between natural and artificial wealth would suffice for this purpose. When that which ought not to be owned has come to be owned, it is not the less capital by virtue of the ethical facts; nor do economic classifications stand or fall with the social appraisals which these facts may invite.

(5) **Diminishing returns.** — The point as made by Böhm-Bawerk — that land as a productive factor is peculiar in important respects — is difficult of discussion. Perhaps the so-called law of diminishing returns is especially in mind — of which there is much more to be said later. Stated in the large, this law may be taken to assert that any given piece of land cannot be harder and harder pushed for product, excepting upon terms of less and less generous response. Surely there could be no such thing as land rent, were there no limit upon the supply of land; but this is merely to say that all value, whether for land or for machines, or for shoes, or for hats, exists only as dependent upon some degree of scarcity.

And surely, if, with any given piece of land, increased expenditure upon the land were not attended with a constantly falling compensation both in volume and in value, there could be no land scarcity and no land value. But this is equally true of mowing machines or horse rakes. So, if one pound of phosphate would suffice to fertilize a continent of land, phosphate would be safe from ever becoming dear in price; or if one hour of labor would do all the work to be done, labor and its products could not be rare. And surely if only the non-land expenses of production be doubled, there must result less than a doubled product: the productive undertaking as a whole has not doubled. If this fact is

all that is intended to be formulated under the competitive rendering of the law of diminishing returns, the law must be pronounced to be axiomatically valid, but valid equally for capital instruments and for labor agents in all their various combinations. Each case under the law stands as mere illustration of the fact that if only a part of the productive factors are increased, the product will not respond with the same increase as if all the factors are doubled.

But the law is often formulated to assert that if the application of expense to the land be doubled, but the land not doubled, the extra returns will fail of proportion to the increased expense. And this formulation of the law is also valid, even if not quite axiomatic; proper proportions of land value with other values must be maintained, or the returns will be a disappointment; a bad combination gives bad results. But in this there is nothing peculiar to land.

(6) **Peculiar laws.** — It cannot be admitted that land rent has its own distinct general laws. Many forces in economic development tend, as we have seen, to reduce land rents, as well as machine rents. Nor is it true that investments in land earn lower rates of interest than other investments, if all the different incomes are allowed for, or that land properties arrive at a market value by processes different from other properties.

What capital is. — It will shortly be made clear that the process by which the market prices of different lands are derived from their earning powers is the very same process which applies to all other durable properties. Tested, then, by the ability to earn interest upon the invested funds, land is capital. Tested by the fact that its market price is the capitalized present worth of its future incomes, it is capital. Tested by the fact that its possession is desired for the incomes which it controls, it is capital, just as is any machine or other implement of production. Tested by the similarity of a town lot to a town residence, as each a durable consumption good, the lot is capital.

The test of capital is, then, in the rendering of income with passing time. Any durable objective source of valuable private income is to be recognized as capital: the phenomena of interest, of capitalization, and of a derivative present value are present. Land is capital — agricultural land, or factory land, or the sites of farmhouses, or of

country mansions, or of city palaces, or of city tenement houses, or of city shops — all lands, rendering a valuable income, and coming thereby to command a price.

The test of capital is, therefore, not in the fact that it is an intermediate in some mechanical process, or that its results are finally incorporated in some addition to the sum of tangible material things; else ice stored in winter for summer use, or fancy cheeses taking on new delicacies of mouldy flavor, or meat warehoused for salt or pickle, or grain in the elevator, or fruit or eggs or poultry in cold storage — would all fall out of the capital category. Nor if the test were in the materiality of the product could a bus, or a passenger coach, or an excursion boat be ranked as capital.

Nor is the test better found in the wholesomeness of the consumption, or in some other possible social service attendant upon the thing or upon its product. It suffices merely that the property earn an income, or that its product command a price. Whether the stale cheese is dietetically better than the fresh, the corned beef or the ham more digestible than fresh beef or pork, the whisky more wholesome than the rye, or the beer than the barley — is not to the purpose. If whisky is wealth, distilleries must be capital. Opium being wealth, and opium lands commanding rents, opium lands are capital. Corsets sell, therefore corset factories are capital.

And if the test is neither in the materiality nor the wholesomeness of the product, it must be equally clear that it cannot be in the materiality of the property on which the product is conditioned. The differences in the prices of dwelling sites are mostly due to differences of position, and the incomes are mostly such intangible facts as space, view, convenience, neighborhood associations, and social prestige. Equally well, also, may the sources of the income be intangible — patents, franchises, monopolies, good will, political privilege, police favor.

Where discount is, capital is. — But this is not all of the doctrine here to be presented: the capital category must obviously be extended so far as to comprise all durable

items of property — all things, that manifest the phenomenon of interest — or, to put it still more accurately, all things to which the principle of time perspective applies in the process of arriving at a present worth. Capital includes, that is to say, all possessions that furnish to their possessor an income with passing time — all things that require for the rendering of their service an interval of time so far appreciable that some of these services suffer in present worth through the effect of their futurity.[1] One's own home or one's carriage yields him a succession of valuable services: that is why he bought it and paid cash for it, or still pays interest on the purchase price. All goods also that take time in which to achieve their value, to grow into a tree, to ripen a crop, to mature a coupon, fall under this principle and are thereby capital. Likewise, if, with the lapse of time, the value increases, whether by one sheep growing into two, or one small sheep into one large one, or one superfluous sheep to a famine-time sheep, the thing which is the basis of increase is, by that very fact, established to be capital. So long as, with passing time, the objective good so changes its utility in relation to its possessor, or so long as its possessor so changes in needs and desires or in provisionment as to modify the utility relation between the good and himself, there is room for the rendering of an income, and of an income susceptible of a discount into a present worth. And more than this: as the time draws nearer at which a good can render its service, there may be,

[1] To remember the immediate past and to anticipate the immediate future is the most striking function of consciousness. Indeed, what we call the present instant is something that hardly exists except in theory. . . . Practically what we call our present is something that has a certain length or breadth of duration, and is composed of two halves, one being our immediate past, the other our immediate future. What we feel ourselves to be at any given moment is what we were just before and what we are just about to be: we recline on our past and incline toward our future, and that reclining and inclining seem to be the very essence of our consciousness. So that consciousness is, above all, a hyphen, a tie between past and future. — Henri Bergson, "Life and Consciousness," *The Hibbert Journal*, October, 1911.

by this very fact, an increase in its present worth. Conversely, there commonly goes with remoteness a diminution of present worth. This fact of futurity manifests itself when viewed from the beginning of the period, as a diminution, as a discount; the same period, when looked back upon as past, interprets the same fact as a growth in value. Thus all goods that have a time dimension, all durable goods, manifest the interest, or time discount, phenomenon; all, therefore, are capital. Capital is wealth in its time dimension: value in time. All instrumental goods, land or other, are evidently capital. And if the land on which one pastures his flocks is capital, so is his yard or his park wherein he pastures himself. And if land used for building purposes is capital, then all consumption goods which are in any part postponed in use must be included; all are held because an advantage or increment lies with postponement. The very fact of postponement proves that the present worth of the postponed use outranks in estimation the present use. Even with goods deteriorating or decaying, physically or chemically considered, the advantage in present worth is on the side of delay, or they would not be held. It is not conclusive that some of the apples stored in the cellar will rot, or that the ice in the shed will lose half its weight before summer. The present worth of the half of the ice, computed upon the basis of the summer value, is greater than the worth of the whole for present consumption.

How the issue matters. — Most economists still hold that the rent of land has no part, as cost, in determining the supply and the price of the product. It is, indeed, mainly for this reason that they emphasize the distinction between land and other instrumental goods and deny that land is capital. But that, in competitive affairs, the business man's total investment, inclusive of land and franchises and patents, is his business capital, and that the important fact for cost and for the fixation of price is the fact of outlay and not the particular direction of this outlay, may perhaps be made clearer by observing the different ways in which producers in the same line of production go about to achieve precisely

similar ends. Of six farmers, with substantially similar farms and inheriting or borrowing an equal fund of purchasing power, one will buy more land, another more machinery, a third will hire more labor, a fourth will buy more draft cattle, a fifth will increase his herds, a sixth will enlarge and improve his sheds and barns; but all will, in essential similarity, be devising ways of most gainfully putting product upon the market. True, there would be room enough here, were it to the purpose, for technological distinctions between the various factors of production, but it is clearly not to the purpose. No one of these gain-seeking outlays is any more or any less a cost than any other — no one of the durable objects purchased less an item of capital than any other.

We may, then, take it as established that, in any competitive sense, the productivity of labor or of wealth is purely a question of controlling income for an individual; that all durable property is a durable source of income, commands therefore a price, and is capital in the degree of its price; that, even mechanically viewed, the factors of production are not three or four, but legion; that the hires of these for productive purposes are all equally costs, and are costs by the same test and title; that there are many cost outlays and cost charges other than those involved in the mere hiring or buying of material, concrete, industrial equipment; and that, as one out of a large number of costs, must be reckoned an interest charge upon the invested fund or funds. The invested capital fund as an aggregate is therefore capital. Every source of income in which any part of this fund is invested is capital. Every outlay in production is a cost. Every cost is to its recipient a distributive share. Rent and interest are equally incomes from capital, are, as costs of production, indistinguishable in their relation to price, and are distributive shares of the same rank and by the same title.

The next chapter will devote itself to reënforcing these conclusions, with especial reference to the relation of the rent of land to the costs of production and the prices of goods. It will be shown that the rent of land is a cost like any other, and has the same relation to price. The existence of any factor of production for which a rent or hire is paid is obviously not a reason why the product is scarce or the price

high. The more of the factor, the more of its product and the lower the price. The rent of the land, or the hire of any other factor, is merely the competitive expression of the scarcity of the factor. Rent is paid to the landowner, and is a cost to the entrepreneur, because of the scarcity of the land. Any factor that commands a rent commands it not because there is so much of the factor, but because there is so little of it; not what there is of it, but what there is not of it, explains the rent of it. Every cost outlay is, then, merely the guise in which, in a competitive society, the scarcity of the factor presents itself to the entrepreneur. Desiring to control the price product of the factor, the entrepreneur is compelled to pay a rent as the condition on which he may control the factor, and, through the factor, may control the product of the factor. Cost, therefore, is the competitive expression of the limited supply of the factor. Thus all rents or hires of productive factors — as all pointing back to the ultimate fact of the scarcity of the factors — are all equally costs in the entrepreneur computation. So far, then, as the distinction between land and capital concerns itself with the attempt to distinguish land rent from other rents in relation to cost of production and to price, the distinction has no basis.

CHAPTER XII

RENTS OF INSTRUMENTS AS COSTS: LAND RENT AND COST

Substituted costs in agriculture. — In agricultural production, as in almost all other lines of production, there is need, as has already been noted, for a considerable variety of equipment, land and other. In some measure, also, one sort of equipment may be used as substitute for another. This principle of substitution is manifest in a great variety of applications. Just as the original qualities of the soil may be exhausted by withholding upkeep, so they may be replaced and renewed by capital expense; the poorest of land may be made into good land, if only sufficient capital expense be applied, — the sole question being whether it will pay. And this question in turn depends upon the selling price of the products. And precisely as machinery may take the place of labor, or labor of machinery, so more labor may often be hired, instead of renting more land or purchasing more machinery; or, again, more expense for equipment may be applied to a given holding of land, instead of hiring more labor or renting more land.

This is constantly illustrated in actual farming; one farmer rents more land or better land, and thus, through his larger rent outlay, excuses himself from correspondingly large outlays for machinery or fertilizers or labor; another farmer finds it to his advantage to restrict himself in rent outlays and to extend his investment in the direction of capital goods or labor. All these outlays are investments of capital.

But that at the margin this principle of substitution holds, and even that extending transportation or improvements in agricultural technique may have the effect either to increase the land supply or to make more effective the existing supply, does not prove that the principle of substitution is indefi-

nitely applicable at no matter how distant removes from the margin of substitution; for were such the truth, there could be nowhere any disadvantage from an increase of capital expense upon a fixed supply of land, or any loss from twenty laborers working with one loom, or any reason why indefinite wagons should not dispense with the need of horses or drivers.

Complementarity *versus* substitution. — For it is clear that in the main the relation between the different production goods is one of complementarity and interdependence rather than of the indefinite possibility of substitution. More men and more machinery may make call for more land rather than for less, or for the old land at a higher rate of rental. Machinery does not displace men indefinitely, but, under stable conditions of technique, calls instead for men to fashion or to tend; wagons furnish demand for drivers, ships for sailors, horses for drivers, drivers for wagons, and so on without limit.

Stopping to note, however, that there is in these facts no warrant for the threefold division of productive factors, since it is equally true that bricklayers furnish a demand for hod-carriers, carpenters for masons, wagons for horses, sailors for cooks, engines for cars, rails for ties, meadow land for pasture, and both of these last for timber lands, and so on indefinitely, we are nevertheless held to admit that the substitution of labor or machinery for land cannot go on indefinitely in agriculture. A point always is reached at which more intensive cultivation gives more and more meager returns in product. The difficulty is ultimately spatial. It is impossible to compress agricultural or building or climatic or scenic aspects of land into ever smaller compass and without limit of disadvantage. With all vegetable life a limited space means limited supplies of food, of light, of air, and of moisture. There is, therefore, an elastic, but nevertheless a real, limit to the crop which may be derived from any one acre of land. Otherwise, in truth, there could never be any possibility of land shortage, and that inevitable derivative of land shortage, crop shortage, and therewith high prices of products, and therewith high rent upon land. Were it, that is to say, always possible to double the crop by

merely doubling the non-rent expenses of production or even by doubling, in non-land directions, the total expense, land scarcity could never set in, or land rents emerge as derivative from this scarcity.

Population, land, and product. — But with our present knowledge of the sources of food and with our present command of the technique of agriculture, it is clear enough that increasing population must tend to exert an ever harder and harder pressure upon the resources of the land. Thus, from a social point of view, and purely as a forecast of human welfare, Malthus and his successors long since made it clear that, in the land aspect, the prospects of the human race are discouraging. With increasing numbers, human beings must find the food problem progressively a more serious problem; in its effect upon per capita production of commodities, overcrowded land is the same thing as poor land.

Population — rent and wages. — These same facts, looked at in their competitive and price significance, have larger meanings than Malthus saw, or was interested to see. They mean, namely, that with an increasing population, and an increasing relative scarcity of the products especially derived from land, and with increasing relative plenty of the products which are mainly derived from labor or from instruments of production other than land, the relative prices of agricultural products must move upward, and that rent upon land must gradually and constantly advance. And these same facts, treated in their distributive emphasis, would assert that as, with increasing population, there falls out, per capita, a smaller product in society to be divided, there goes to the landlords a larger and larger proportion of this more and more tragically inadequate total. The landlords gain by the general ill-fortune. Those classes disinherited of land are doomed to a double and compounded pressure of adversity. The land famine smites them with both edges of its sword.

When a discussion comes to busy itself mostly with conjecture and prophecy, the optimists are prompt to claim their innings. Surely other things remaining the same, all these disasters would

attach. But other things will not remain the same; for if there is a law of diminishing return, there is also what is sometimes inaccurately called the law of increasing return. If, with relative land famine, a larger share of the productive energies at human disposal must be applied to the land, it may also be true that, with improving methods and processes in manufactures, humanity can spare for the land a larger share of its productive energies. Who knows that progress in one direction may not more than make good the deficit in the other direction?

Rent and the methods of culture. — Strictly, however, our business is not with prophecy, or with history, or with social appraisals, but with the explanation of the present payment of rent by competing operators, and with the relation of land and land rent to the prices of products. Fortunately, those aspects of the land question already examined furnish us with some principles and analyses serviceable in the problem of current competitive price.

Precisely as society in the aggregate is disadvantaged in its supplies of products by a bad proportion between its different factors of production, so the individual farmer finds that his land equipment must be in proper proportion to his other equipment. When land is dear and rents are high, the farmer is likely to cultivate a smaller area, and to employ more labor and machines and fertilizers per acre cultivated, — that is, farming becomes more intensive.

This same fact may be put in another way: The rents and the prices of land could not be high were the land supply not limited, the supply of products thereby restricted, and, therefore, the prices of products high. But when land is to be had only at high cost, the number of acres cultivated per man must be small, and the application of machines and fertilizers relatively great. Land rents are so high as to prohibit a lavish use of it; it must be economized; so the non-land factors of production are called upon to serve in larger measure instead of further land. A less intensive method of cultivation would involve a bad proportion of factors — too much land in view of its rent.

But where land is plenty and cheap, extensive cultivation gives the better results. The farmer uses more land precisely because it is cheap. The generous employment of it offers the less expensive method of putting the product

upon the market. Farms average much larger in America than in Europe, and in Europe than in Japan — in Japan $2\frac{1}{2}$ acres.

And not merely this: as prices of products are greater and rents are higher, the farmer finds it to his advantage to cultivate lands which, at a lower price for his products, he could not wisely cultivate; with the earlier low prices, the product left no surplus above the non-rent costs of production. Now with higher prices, a surplus is possible, and the land is, worth paying rent for. It may, indeed, be better to pay the rent for this poor land than to hire a better grade of land with its correspondingly smaller outlays for labor and fertilizers and machinery.

But even so, these higher prices that are making it gainful to open up new lands, are also making gainful the more and more intensive cultivation of the better grades of land. Thus, there are two sorts of marginal cultivation of land, (1) at the extensive margin — upon lands barely indemnifying in their product the non-rent expenses of cultivation; and (2) at the intensive margin — the point at which, upon supra-marginal lands, further cost is barely indemnified in the price of the further product.

Price and marginal production. — The market price of any product tends evidently to be commensurate with the cost of production at either of these margins, and commensurate also at the same time with the marginal costs of production of those other items of product where rent enters into the cost. The market price tends indeed to be commensurate with marginal costs of production wherever these costs take place. This, however, is not at all to say that the marginal cost of production determines the price; as well declare — and probably better — that it is the price that determines the marginal cost. Neither statement, however, is safe; it is the total supply over against the total demand that determines the price.

All rents equally costs. — It should now be evident that rents are attached to lands, through the bidding of entrepreneur cultivators, upon precisely the same basis, and for the same reason, and by the same process, that wages are

paid for labor, or that other rents are paid for machinery; and that market prices are attached to land upon precisely the same basis, and for the same reasons, and by the same processes, as market prices upon machinery. Good lands command higher rents than poorer lands, just as better laborers get higher wages than poorer laborers. This is merely one further illustration of the principle that any means of gain is paid for because of the additional return that it promises. Land rents represent the differential in market rental of each grade or piece of land above the land barely worth using without rent. But so is every wage or other hire nothing more or other than this same differential above nothing.

And note again that, as has before been sufficiently shown, it is one thing to say that all these different hires are paid because of the promise of gainful service to the entrepreneur in placing his results upon the market, and another thing to say that these hires are paid as the precise equivalent of the contribution to the market price of the result. And it is still another — and an even less justifiable thing — to say that the service for the price gain of the employer is necessarily a service to society.

Ricardian doctrine examined. — The foregoing analysis coincides in the main with the generally accepted theory of land rent — the Ricardian theory — so far as *the amount of the rent payment and the method of its determination* are concerned. The points of divergence lie further on: in the denial that there is anything in the theory of the determination of rent that does not equally apply to the remuneration of all other means of achieving gain; in the insistence that machines receive rent and that labor receives wages upon the same basis of principle on which rent is awarded to land; that the relation of land rent to cost of production, to supply, and to market price, is in no respect different from the relation of machine rents and wages to cost, to supply, and to price; that there are intensive and extensive machine margins precisely as there are intensive and extensive land margins; that marginality in cost of production is a category of persons, and of things only as related

to persons; that the marginal producer may as well be on good land at high rent as on poor land at no rent; that the costs are neither lower nor higher by virtue of the land being better or poorer; that rent is simply a cost that is submitted to as the compensation competitively imposed for the betterness of the better lands; and that it is precisely this fact of rent that cancels the inequalities in cost that otherwise must attend the differences among lands in their serviceability for gain.

Fertility and position. — In the main, the Ricardian theory concerns itself with agricultural and not with urban rents: With agricultural lands of different grades, the best will be occupied first. If there is plenty of this best grade, and as long as there is this plenty, land rent cannot emerge, because rather than pay rent upon some of the lands of this best grade, cultivators will simply take up other of these lands still vacant. Lands of this high grade of desirability may, however, hold this rank through either one of two aspects of advantage: lands equally accessible to the market may be of unequal fertility; lands of equal fertility may be unequally accessible to the market. Illinois lands, for example, are probably better, climatic conditions being taken into account, than Nebraska lands. This explains in part the higher rents and the derivative higher values of Illinois lands. But it does not entirely explain them. Illinois lands pay smaller transportation charges. A bushel of Illinois wheat or corn, or a pound of Illinois beef or pork, affords the larger balance in selling price above the freight. That is to say, there are fertility rents and position rents. Of two tracts of land, one may enjoy one advantage in a degree to offset or overbalance its inferiority in the other respect. Thus it is possible for near-by lands to rank in rent and in price below more distant lands. If, as all lands were less desirable in point of distance, they were in precisely equal degree better in fertility, all lands would be equally desirable, and, therefore, all be rentless — assuming all the while that there remained unoccupied lands.

But take it now — following still the Ricardian analysis — that a point has been reached where it becomes worth while to cultivate lands less desirable than the best grade. This condition will ordinarily be due to increasing demand for product, — say through increasing population, — but might conceivably be due to the waning advantages of alternative industries. At any rate, if the prices on agricultural products are high enough to justify the extension of

cultivation to the poorer lands, these prices must also be high enough to attach a rent to the better lands. Competition imposes these rents; in fact, these rents, so due to the difference in objective desirability of land, are precisely the burdens which cancel this balance of desirability, and place all upon an equal market footing. One tenant, truly, finds it to his advantage to submit to paying rent upon the better land, while another tenant achieves his largest renter's surplus through the cultivating of the poorer and cheaper: but this is a difference of advantage attaching to the difference in men, and in their adaptations. Looked at *from an impersonal* — and therefore a vague and average — *point of view,* the different grades of land command remunerations commensurate with the objective advantages afforded.

But the Ricardian analysis recognizes that it is only the lure of higher prices that induces this widening of the cultivated area — this movement of cultivation to a lower land margin in the extensive sense. For precisely the same reason these higher prices induce a more intensive cultivation of the better lands. Each tract of land has, in fact, its own intensive margin, the point to which it is barely worth while to go in the application of further expense. This is the point where the further increment in price product is at equilibrium against the further expense of achieving that product. In intensive cultivation, the process is not one of opening up new land, but of opening up new productive powers of the land already in use. So, with falling prices, there is not only an extensive abandonment but an intensive abandonment — a partial abandonment — not an exodus truly, in the covered-wagon sense, but a diminished stress of investment, a lessening of pressure, a failure to appeal to those productive powers of the land most niggardly in their response to capital outlay.

In truth, that rent attach to any tract of land is conditioned upon the carrying of cultivation upon it to an intensive margin. The marginal bushel of product carries no rent with it. Exclusive of rent, it costs to get it all that it is worth. It is the rest of the crop that earns the rent, the more per bushel as each bushel is more distant from the intensive margin of disappearing gain. The rent, indeed, is paid for the opportunity to grow the supra-marginal bushels. Every advance in price establishes this opportunity as of greater worth for each supra-marginal bushel, and pushes cultivation down to another and more expensive marginal bushel. Meanwhile, the extensive margin, the area margin, is widening to correspond with the deepening of the intensive margin. Therewith, upon the old extensive margin, there now attaches an intensive margin —

and rents emerge. Such is essentially the Ricardian theory of land hire.

Rent and price. — But what, then, is the relation of land rents to the prices of the products of land? Is corn high because rent is paid, or was Ricardo right in insisting that rent is paid because corn is high? What is the connection — which is cause and which effect? The Ricardian doctrine denied, and many of its numerous adherents still deny, that rent can have any share as cost in fixing the price of products. This denial was, indeed, as we have already seen, a necessary doctrine in the Ricardian system of theory. If prices of products were to be made proportional either to the labor applied in production or to the wages expended, the products must have their prices determined where nothing but labor or wages entered into the costs. So it was argued that the price is determined by the cost of production on marginal land, land which does not pay rent. It was, indeed, both admitted and argued that the costs are less on the better lands, but the prices, it was said, are not determined on these better lands, but on the marginal lands. The rents paid for these better lands were interpreted as surpluses above the cost of production on these lands, or as saved cost, but, in any case, as results of price and not causes of price. These positions in support of the labor-cost theory of price dictated also the taking of some further positions, (1) the derivation of all capital from labor — a doctrine which does not immediately concern us — and (2) the distinction of land from capital. For obviously, if land could not be distinguished from capital, land rents, as related to price, could not be distinguished from machine rents or from interest generally.

But the Ricardian doctrine had hardly been stated, when it met the need of extension or of modification. For what would become of the doctrine, in case there were no marginal land? This query finally divided the Ricardian discipleship into several dissentient camps. The disciples of the stricter discipline experienced no perplexity; there would still be a marginal production on the non-marginal land — a cultivation at the intensive margin. But what, then, of the minimum rents paid for even these poorest lands? Mostly it was answered that these, like the rents originally discussed by Ricardo, had no share in fixing price; that they were also differentials above the margin of production, saved costs, equally with the differentials above the extensive margin. This widening of the issue brought, however, still further dissension. For if all land hires were excluded from cost, through an appeal to the intensive margin,

must not machine hires make the same amazing disappearance? And if these minimum rents common to all agricultural production, the dollar rents, were included, would not the rents on the ten-dollar lands ten times as good have also to be included? The "higher synthesis" that was needed arrived with the discovery by the later Ricardians that not all of the rents were to be excluded from cost, nor all included; that only those should be included which the lands would earn in that best alternative employment in which they might have been used — but actually were not used — and that those must be excluded which were a surplus earning power above the alternative use; only, therefore, when the lands were good for nothing else would all of the rent disappear from cost as an influence affecting prices; only in this remnant was the original Ricardian principle still acceptable.

Precisely what, in this neo-Ricardian theory, will finally become of the distinction between land and capital, now that the distinction between rent and interest has broken down, — *part* of the rent now entering into price — we may not at this point too curiously inquire; our present task is to examine these various classical or neo-classical methods of relating rent to cost of production. On which side is really the causation — with prices or with rents? Or possibly is the question rather one of relative emphasis — the one more cause than effect, the other more effect than cause?

The actual relation. — The truth is, as we shall see, and as in other connections we have already seen, that the cause of the price is not ultimately with the rent, nor is the cause of the rent ultimately with the price. The scarcity of the product explains — on the cost side — the price of the product. The relative scarcity of the product is in turn explained through the relatively limited supply of its sources of production. The rent of the land, equally with the price of its product, finds its ultimate cause — so far as the supply is concerned — in the limited supply of land. But it is none the less true, that, looked at from the point of view of the entrepreneur, the hires paid by him for the different factors are costs to him, and as costs, are effective to limit his output of product. These costs are, in fact, the form in which, *for him*, the scarcity of factors expresses itself. Thus, whatever is the hire paid by him, for whatever employed item or thing, that hire is a cost. Nor does it matter whether

the employed thing could or could not be used in some other industry, or used by some other employer in the same industry, excepting so far as the different possibilities of employment may bear upon the payment necessary to command the service in any given use — only so far, that is, as the limitation affects the supply for the particular use in question.

Still other rent-cost fallacies. — This ought, it would seem, to go without saying; nevertheless, strange doctrines, as we have seen, and not a few of them, have made their appearance in political economy in the effort to follow out the dogma that rent is no part of cost, and in the attempt to fit this doctrine somehow into the facts of business.

There are, in truth, various sorts of differentials in the payment for the use of land, each of which has, in its turn, been regarded as that particular sort of rent which does not influence price. Suppose, for illustration, that there is a tract of land worth 100 of rent if used in tobacco culture, but only worth 50 in its next best use; that the poorest tobacco land in cultivation earns 25; and that the poorest land in cultivation for any purpose earns 10. Shall it be said that only the 50 of displaced product is a price-determining cost, the extra 50 remaining a price-determined surplus? Or shall the 25 of rent paid for the poorest tobacco land be taken as cost and 75 stand as surplus? or only 10 remain for cost and 90 go for surplus? Or shall nothing remain for cost?

If, for example, it were true that all land, even the poorest, were in cultivation, and at an appreciable rent for even this poorest, it could hardly be urged that not even this minimum rent could form a part of cost. Or take products like champagne or tobacco or garden truck, commodities produced upon those high rent lands which are commonly of a sort to command good rents for other purposes: shall it be said that none of these rents, or only those on the poorest of these lands, can rank as among the costs that influence price? And how exclude any, if not all? If four of rent upon one acre has no part in price determination, why should the rent of two acres worth two each per acre have anything more to do with it? If the wages of a two-dollar man are included in cost, why not also the extra two dollars paid to a man twice as good? Clearly no one of those outlays can be excluded from the cost that determines price without excluding all.

Alternative rent as cost. — But perhaps a stronger case may be made for including within the rent-cost of one commodity, say tobacco, only such part of the tobacco rent as the land could be made to

earn, if employed in the production of its next best alternative crop. This view, as we have seen, would be valid for Crusoe or for a collectivist economy; only to the degree that one item of land was important in some other use could it be regarded as furnishing a resistance against any particular use. But does this same analysis hold for competitive production? Will it do to say that the cultivator's cost is not what he does pay, but what he would pay if he paid something indefinitely, and perhaps unknowably, less? Would it do to include as a wage cost, not what the laborer actually commands in the given employment, but some smaller sum that he might command in some other employment? Does the premium upon specialized skill fall out of cost? If so, all competitive computations of cost become sheer nonsense.

But, strangely enough, there is authority in plenty for this view.[1]

John Stuart Mill, for example, writes that "when land capable of yielding rent in agriculture is applied to some other purpose, the rent which it would have yielded is an element in the cost of production of the commodity which it is employed to produce."

Jevons, objecting, says: "Here Mill edges in as an exceptional case that which proves to be the rule. . . . If land which has been getting £2 per acre rent as pasture be plowed up and used for raising wheat, will not the £2 per acre be debited against the expense of the production of wheat?"

And Jevons commendably carries his logic to its ultimate collapse: "When labor is turned from one employment to another, the wages it would otherwise have yielded must be debited to the expense of the new product."

But perhaps Patten's manner of statement brings out the issue most clearly: "If the marginal land used for gardening will yield a rent for wheat, the value of the marginal produce of garden products must equal the cost of the labor employed plus the cost of the land when used for wheat."

[1] J. S. Mill, *Principles*, Book III, Chap. VI; Jevons, *Theory of Political Economy*, Preface, pp. liii, liv; Patten, *Theory of Dynamic Economics*, p. 78; Hobson, *Economics of Distribution*, pp. 121–125; Macfarlane, *Value and Distribution*, pp. 130–135; and A. S. Johnson, *Rent in Modern Economic Theory*, pp. 78–82, are among the different supporters of the affirmative; see Marshall, *Principles*, for the most authoritative exposition of the negative argument; also, A. M. Hyde, *Journal of Political Economy*, Vol. VI, No. 3 (June, 1898).

Surely the product must at least equal in value the labor wage and the wheat rent. But it must more than include the wheat rent; it must include the rent for the garden use, which has, by assumption, been important enough to displace the wheat use.

The error in the half-truth. — But there is nevertheless, as has already been indicated, some saving grace of truth in this doctrine that only such rents as could be earned in the displaced use are costs in the actual use. An influence important for the price of wheat, and an influence much more nearly fundamental than mere entrepreneur outlay, is vaguely in the background of the thought. Still, it is not the displaced corn rent that makes either the prices of wheat or the rents of wheat land higher, nor is it the land which might have been used for corn, but instead was used for wheat, that makes wheat prices and wheat rents higher — for precisely the contrary is the fact — but it is the limitation upon the supply of wheat lands by virtue, among other causes, of the use for the growing of corn, that makes the supply of wheat smaller, thereby the prices higher, and thereby again the wheat rents higher.

And once more be it repeated that neither rent nor any other entrepreneur cost is an ultimate cause of price. Rent in any line of production is merely the entrepreneur expression of the limited quantity of agents accessible for that industry. But in principle all this holds equally of wages and of interest as costs. The relative scarcity of the productive factor renders the products relatively scarce, thereby the prices high, thereby the remuneration of the factor high. The high remuneration is cost, in the sense of an influence limiting supply, only as, under entrepreneur production, it is the result and the expression of a relatively limited supply of agents.

Cost and profit as distributive shares. — The argument thus far sums up in the doctrine that every outlay in production is a cost and every cost outlay a distributive share. It must, however, be noted that profit as cost does not precisely coincide with profit as distributive share. Profit is not an outlay but a remainder. Only such part of it as

is necessary to hold the producer in the given occupation, or at the given aggregate of product — only the necessary profit — functions as cost. The balance is a surplus above cost. In this one respect distributive shares and costs do not necessarily coincide — coincide, in fact, only for the marginal producer and for his marginal product.

But it still holds true that any instrument, or agent, or right, or opportunity, is a basis of cost to its employer to the extent of the hire paid, and to the extent also of such surplus above the hire as the instrument or agent could be made to yield the employer in some alternative use. If the actual renter at 100 is conscious that he could, in another line of production, make the land count him for 102 of return, the while that it is actually paying him 103 in wheat, he must compute, against its actual productivity of 103, a cost not of 100, the rent outlay, but of 102, the foregone opportunity. His cost, so far as it is a land cost, is in his best foregone alternative; in the case supposed, this best alternative was not to keep his money in his pocket but to invest it in another line of production. The price necessary to induce the production of the wheat was not, in point of land cost, 100 but 102. In the producer's computation of costs, these opportunity differentials, however, are commonly included in his total of necessary profit rather than as attached to the particular instruments or agents. (See Chap. VI.)

The place of cost in theory. — Cost, that is to say, is purely an entrepreneur reckoning. It is concerned with what the entrepreneur has to pay or forego, and not with the explanation of why he has to pay or forego it, whether because of the opportunities in some other industry or of the demands of competitors in the same industry. The entrepreneur knows what hires the actual employment forces him to pay in view of the restricted supply of instruments or agents. But he cannot know, and he need not care, what hires the agents or instruments might demand in some other employment. He is not, as entrepreneur — but only as economist — concerned with the ultimate causes of his costs. It is not to his purpose to ask whether the scarcity of labor is due to the painfulness or the ill-repute of the occupation, or to the shortage of natural ability, or to the laziness of human beings, or to the lure of recreation, or to

the alternative openings for hired labor. Nor is it more to his purpose to investigate whether his rent outlays are due to the original shortage of land adapted to his uses, or to the restricted supply which the requirements of other industries have brought about. He may find it expensive to obtain diamonds for the cutting of glass, either because there are few diamonds anyway, or because what there are are so hard to find, or because so many are being worn as ornaments. In any case they are for him expensive to get. Cost to the individual entrepreneur, that is to say, is not a fundamental explanation of anything; it assumes prices upon instrumental facts as a step toward explaining price. Nor does the aggregate activity of entrepreneurs explain the cost conditions facing each, unless and until the great underlying facts of human wants and capacities, and of instrumental equipment and opportunity, are included in the survey.

The influences behind costs.—The entrepreneur's analysis takes as definitive and ultimate the actually existing total situation, inclusive of human needs and productive powers and of all the existing supplies and existing limitations of equipment and opportunity and institutions, — and all of this irrespective of how far the situation is due to an original bounty or to an original inadequacy, and irrespective of whether human activity has in the past added or subtracted relevant elements, aspects, or facts. Fundamentally, however, not the outlays for productive facts, or these same outlays regarded as incomes, but the scarcity of these productive facts relatively to the human need, is responsible for the emergence of scarcity of products anywhere and for the relative scarcity of products which underlies and explains exchange relations. But the entrepreneur is not concerned with fundamentals.

Nevertheless, the inadequacy of the *general* equipment does not explain the market price of *any particular* line of products or the exchange relations between different classes of goods. Inside the general situation of the inadequacy of productive factors must be worked out the *relative* inadequacy of productive equipment for the various lines of com-

modities, in view of the relative strength of the purchasing power disposable in these various commodity directions. Here enter the influences of various different lines of production to restrict the supplies of productive factors in each particular line.

Price-determining *versus* price-determined costs. — Nowhere, in fact, is the distinction between price-determining and price-determined costs valid. In the main, the value of each productive fact is price-determined; but as part of the supply of productive facts, each is, through its products, in its small measure, a price-affecting influence. So, also, each individual activity bearing upon price or related to price, whether, on the one hand, the producer's supply price or, on the other hand, the consumer's disposition to pay or not to pay, is, in the main, price-determined, because chosen in view of the actual price situation and in adaptation to this situation; but each such activity, as affecting in its own small measure the aggregate of supply or of demand, must thereby and *pro tanto* act as a price-determining influence.

The only one, then, of the several rent concepts important to the cost analysis is that of the actual hire; but as opportunity cost, the land or any other productive fact may figure as cost at something vaguely more than the actual hire paid.

It should now be clear that, from the point of view of the aggregate product, it is important to society that it have not merely a generous equipment of factors of production but that these factors be in the right proportions; that right proportions are often matters of the technical relations between factors; that although, within limits, more of one factor may atone for less of another, there still are limits — the process of substitution not being indefinitely applicable; that this rightness of proportion is really another aspect of the impossibility of indefinite substitution, and expresses merely the fact that the effectiveness of each factor is in large degree dependent on the presence of other, and therefore complementary, factors.

It has also been suggested — and will in later chapters be

demonstrated — that these complementary relations between factors exist side by side with other relations of possible substitution; that each of these relations so varies with developing and changing conditions of technique, and varies in ways so numerous and so complex in degree, in direction and in kind, as entirely to discourage all attempts at the classification of factors on the basis of their technological interrelations.

And further; even if, in the social view and for technological purposes, land were so distinct and peculiar in its functions as to permit of classifying it separately and of avoiding the immediate necessity of indefinite subclassification, nothing would have been accomplished of service to the competitive analysis or even relevant to it: land rent would remain as clearly a cost in the competitive régime; the Ricardian attempt at the marginal exclusion of rent from cost would be neither the more nor the less hopeless; the distinction between rent costs and other costs in their bearing on price would remain impossible; the separation of land from capital would be equally gratuitous; the antithesis between price-determining and price-determined costs must not the less be abandoned; the labor theory or the wage theory of price must still be declared a grievous error involving a long series of associated or derivative or contributing errors.

The next chapter will trace the essential similarities of urban to agricultural rents. It will be shown that while urban rents are almost entirely positional, the differences in position are the basis of a wide diversity, both in degree and in kind, in the ultimate incomes attaching to urban lands and in the derivative money incomes; that in the main the growth of urban rents in the aggregate, as compared with agricultural rents, is due to the development of technique in its bearing upon agricultural production, taken in connection with the marked inelasticity in the consumption of agricultural products; that at the same time, the development of urban transportation has profoundly affected the distribution of positional advantages within the city — widening greatly the city area, diminishing the density of the population, and scattering the residence centers; but that the effects have been equally marked in consolidating and congesting the central retail area at the chief intersecting point of the lines of urban passenger service.

The chapter will then examine the most plausible of all the arguments for the view that land rents take no part in the fixation of price, and will show that, even with reference to the rent costs of merchandising, the classical position is untenable; that the rent costs of merchandising are only one of many different costs attaching to the selling of goods. Shall outlays for advertising be also excluded from price-determining cost? for transportation? for taxes? It is true that all competitors pay these different costs in approximate ratio to the advantages attending them. So competition forces rents high enough to cancel most of the advantages going with differentials of position — precisely also as agricultural rents cancel the objective differences of advantage between different grades of cultivated lands. But the exclusion of any cost outlay by this test would compel the elimination of all differences in wages from cost. And finally the chapter will return to a further emphasis of the truth that rent costs, like all other costs, are merely signboards pointing to the ultimate explanation of price rather than themselves such explanation. Not the rents paid for urban sites for business, but only the restricted areas for the transaction of this business, are the ultimate terms in the explanation of the prices of the goods sold.

CHAPTER XIII

URBAN RENTS, AGRICULTURAL RENTS, AND COSTS

Position and city rents: business sites. — With agricultural rents, there are, as we have seen, two aspects of differential advantage, position and fertility. With urban rents, the sole appreciable influence is that of position. But with this one fact of position go many different kinds of advantage. For retail business, convenience of accessibility for retail customers is the controlling factor. Thus the business section of the city is constantly extending its tentacles into the residence districts — the shops little by little establishing themselves farther out as the city grows, traffic eating its way into what were earlier the places of quiet. And frequently also, with the increasing size of the city and with the increasing difficulty of retail service from one downtown business nucleus, there grow up other nuclei of retail trade, commonly near to suburban railroad stations, or at intersections of street-car lines. Large prices attach to the more favorably situated of these business sites. That twice as many people pass a corner lot as an inside lot is the explanation for the higher rents and the higher market prices of corner properties. Those businesses peculiarly dependent upon the custom of chance passers-by, or in marked degree dependent upon ready accessibility for their clientele, *e.g.*, drug stores and banks, are especially likely to choose corner locations. The value rests in the opportunity for gainful trade. Position counts for much in controlling trade — serves in place of advertising — is, in effect, one means of publicity. The sale price of the lot is the present market worth of the gains which the control of the location promises — an expectation extending often far into the future, and not rarely embracing prospects of gainful trading with generations yet unborn.

With wholesale houses, the more important consideration is that of shipping facilities — nearness to stations and wharves. Manufacturing plants especially covet good side-track service for the receipt of materials and for the outward shipment of finished products. Residence lots trace their value in the main to a similar and yet a different set of influences — to sightliness, healthfulness, nearness to schools and churches, convenience of street-car service, and especially to the character of the neighboring residents and the quality of the surrounding improvements. Among the most important of these improvements are the actual or prospective paving and grading of streets, and an established service of gas, water, light, and telephone.

Residence sites. — In the large and in the aggregate, the rents and prices of residence property are evidently dependent upon the size of the city. The greater the population, the more the city must absorb the near-by farm areas, the more the pastures must be cut up into city lots. The residence margin is like the extensive margin of cultivation, extending constantly to the more and more remote and less desirable lands. The remoter lots are available for homes only on terms of larger passenger rates and of greater expenditure of time and convenience. Lands at this extensive margin of city growth command small rents and therefore bear very limited prices. Even when a suburb enjoys especial advantages of sightliness or of beauty or of wealthy dwellers, the land values are likely to be low in comparison with lands similarly favored but nearer to the municipal center of things. The differentials, therefore, which characterize agricultural holdings are equally manifest, after their own kind, with urban sites, whether utilized for residence or for commerce.

Differential advantages in position. — The theory for the case may be illustrated as follows: If, from a distant spring, we supply ourselves with water without charge, and from a spring near by pay a water fee, the difference in money outlay may be regarded as not so much a difference in the amount of rent as in its direction and kind. With a distant spring, the rent is a travel rent, the market

equivalent of the money rent of the nearer. Precisely so, the better residence sites command a money differential above the less desirable and the marginal sites. So far as the differentials are merely those of transportation, our analysis might then declare that the distant lands pay rents in terms not of landlords' exactions, but rather of walking to and fro upon the earth, or of the keep of carriage and horse, or of outlays for train and tram service. The less remote lands return their rents for the most part in the form of money accruing to the landlords, as the condition on which these alternative burdens are to be avoided. And if the occupant himself is the owner, his investment justifies itself as the cash outlay on terms of which he is excused from other sorts of rental charge. He loses interest receipts, but thereby protects himself from rent outlays in cash, or from the alternative burdens of inconvenience, or of constant driblets of car fare.

The product from position. — In fact, however, urban residence rents are much more than mere transportation differentials. Perhaps the largest outlay is for the privilege of living on the street where live the people that one likes to be known to live near. In truth, while urban lands bear no crop in the ordinary agricultural sense, the crop is still there, though of a less tangible and material sort. The ultimate incomes which they afford, and of which the money rents are the market prices, are incomes of comfort or health or convenience or beauty or privilege — real and actual and valuable incomes despite their lack of all weight or bulk or spatial extension — incomes which motivate and explain the command of money rentals as the market value of the ultimate incomes of service.

Rent and individual desert. — It is obvious that with agricultural and urban lands the rents and the derivative market prices are commonly due in no appreciable degree to the skill or industry of the present owner or of any former owner. That a farm in a new country rises in price is due to the fact that the world demand for agricultural products is increasingly placing a premium upon the agricultural opportunity which this land controls. New lines of transportation are affording quicker and cheaper access to a wider and wider market; therewith a larger gain attaches to the land, not solely in the saved expense of marketing its products, but also in the lower prices on all purchased supplies — implements, raw materials, and foodstuffs.

Rents and improving processes. — Whether these better conditions of transportation would help any particular farm or locality, were the improvements adopted generally rather than merely locally, we need not now inquire. It is, at any rate, clear that transportation is only one of the ways in which the advance of civilization tends to lower the costs and the prices of agricultural products. Diminishing charges for machinery, and every improvement in the technique of cultivation — *e.g.*, new methods of rotating crops, deep plowing, better fertilizers — work to lower the costs of the product and to increase the volume to be marketed. Better varieties of crops are likewise effective in diminishing the costs. All these different lines of advance are evidently social in their origin; but equally evidently, they are individual in their contribution to gain, so far, at all events, as they tend toward higher rents on lands rather than toward lower prices for the consumers of products. (See note, p. 456.) Society makes the improvement, and the individual landholder seizes the benefit. His title of ownership in that which he has not produced authorizes him to collect a rent from his fellows for that which is not his but their accomplishment.

Rent as a distributive fraction. — Nor is this all of the case, so far as the higher rents are due to an increase of population. The strongest influence toward rising rents is the movement of cultivation to poorer grades of land, as induced by the increasing demand for agricultural products and the derivative higher prices. If labor and appliances and fertilizers are to achieve their best results, it is necessary that the land factor in production be in proper proportion to the other factors. Agricultural industry seriously suffers in its product if the supply of land is inadequate. This is simply to repeat what, in a slightly different connection, was set forth in the preceding chapter; it is merely to emphasize the social significance of the law of the proper proportion of factors, — a law which, in its special application to agricultural production, is commonly known as the law of diminishing returns.

Population and rural rent. — How much land one may advantageously work and with how expensive equipment,

depends, of course, on what crop he is going to raise. But one cannot ordinarily raise as much per acre from four acres as from two, nor can one ordinarily, by doubling wage and other expenses on his ten acres, thereby double the product. Were it possible continually to double product by doubling the non-rent expenses of cultivation, there could never come any need of more cultivated land, no matter what increase might take place in the demand for agricultural product. As the situation actually is, a larger demand for product is met in part by the cultivation of more land.

It has likewise been made clear that if population were sufficiently sparse, only the best land would need to be cultivated; and that if the supply of this land outran the need, no rent would have to be paid by any one, since, if rent were demanded, the cultivator would have his choice of other lands equally good. But, with any considerable increase in population, land of inferior quality or land at inconvenient distances must be brought under cultivation, and rent be paid for all land superior in quality or position, according to the degree of the superiority. With third-quality land in use, the second quality commands a rent.

Urban *versus* rural tendencies in rents. — Increase of population, then, it is clear, is a force making for the increase of agricultural rent. All local and special improvements in transportation, in methods, in varieties of crop, tend to raise the rents of the particular land affected by them, but, by increasing the supply of products, tend to diminish the rents of those lands not so affected. On which side rests the balance of effects is a problem which will later require a deal of attention. (See note, p. 456.) **But by far the more important effects of these different sorts of improvements are in other directions — in the strong influence toward the growth of urban populations and toward the colossal rise of rents in the cities.**

With a given population, the consumption of agricultural product is neither greatly to be increased nor very seriously to be diminished. Especially does this hold of food products. It would be going too far to assert that there is an entire lack of elasticity here, that no more and no less of food and of the raw materials of industry can, as an aggregate, be

consumed. There is doubtless some elasticity in either direction. All that can safely be asserted is that this line of consumption is relatively an inelastic line. If the world harvest of any year were twice the usual return, much food would rot upon the ground as a useless surplus. On the contrary, were the harvest only one half the normal, the richer people and the more well-to-do would bid up the price mostly beyond the reach of the hungry poor. The breaking down of the social order, the general loosening of social bonds, and the rule of the strongest would be the result. Only pillage, riot, and rebellion would remain to the poor. Two centuries ago, an Italian wrote: "A disgusting thing is a rat; but in the siege of Cesilino, one sold for eight florins. And it was cheap at that, for he that bought it lived, and he that sold it died." Recall also the prices of products and the public disorders in the siege of Paris in 1870.

Primitive agriculture imposes country living. — The fact that food is the primary human need is the explanation of the prevailingly agricultural character of the mediæval societies. What, in fact, has been the meaning of the redistributions of population especially characterizing the last two centuries? The urban population has far outstripped in rapidity of increase the agricultural population. The growth of the small city as against the country, and of the great city as against the small city, is one of the most obtrusive facts of modern life. The new and agricultural countries like America and Australia, equally with the older countries, manifest these redistributions of population; and, on the other hand, in point of the degree of the tendency, the thickly populated countries of Europe fall not at all behind the sparsely and newly settled countries. City growth is general in the modern world.

Better agriculture increases city living. — The growth of the city is not ultimately to be explained by the improvement of industrial processes. Only such men can work in manufacturing as the falling prices of food products relatively to manufacturing products dismiss from the processes of food production. So long as the food product from one man's labor sufficed for the food requirement of only one

man, the entire population was compelled to occupy itself with agriculture; now, when one man's labor will feed three men, two thirds of the population may be urban. So also, the development of transportation serves for the most part to explain, not why so large a proportion of the population is now agricultural, but only the distribution of the non-agricultural population. To the extent solely that transportation has opened up more land or better grades of land to agricultural uses, or is itself to be ranked as one of the processes of agricultural production, is transportation responsible for the growth of non-agricultural employment. And precisely here it should be remarked that to the extent that, in the production of implements and appliances, manufacturing is itself an agricultural process, to precisely this extent industrial improvement must have limited the growth of the rural population.

Improving transportation, then, so far as it is not at the same time to be regarded as improving agriculture, has had its effect, not in emphasizing the growth of urban as against agricultural population, but in fostering the growth of the small city as against the village and of the great city as against the small city. Looked at from a more distinctly technological point of view, this truth would read that transportation has fostered the giant industry as over against many small competing industrial units.[1]

Similarities between urban and rural rents. — But however different are the forces which make for an increase of urban population, and thereby raise urban as against rural rents, it is clear that many laws are common to both. As cultivated lands find their margin at the alternative use for grazing, forestry, and the like, so town lots may find their margin at the alternative of market gardening or of other intensive cultivation. Improved urban transportation lowers the rents of inside lots and raises the rents of the remoter sites, just as the near-by agricultural lands lose in rental value while the distant lands are gaining. Precisely as the dearer

[1] The New York *Commercial and Financial Chronicle* of December 9, 1911, reports the sale, at $866 per square foot, of a tract of land on Broadway comprising 1154 square feet. This price was at the rate of $37,500,000 per acre.

agricultural lands require and justify a more intensive type of cultivation — require, that is, larger expense in labor appliances and fertilizers, together with larger expense in land rents — so the high-priced urban sites require a correspondingly more expensive type of improvement if the total investment is to yield its maximum rate of return. Urban lands equally with rural lands exhibit this necessity for observing the due proportions of factors and the due distribution of expense among them, in view, of course, of the terms upon which each is to be had. Both manifest the same limitations upon the applications of further doses of expense, — with agricultural lands, the point where further outlays barely return an indemnity in the price of the added product — with urban lands, the point where the interest upon further outlays is barely remunerated by the added earning power of the property. Shall the building be carried another floor higher? What, through added height and extra thickness of wall, will be the yearly cost of this extra story as against the increased rentals to be collected? It is, then, the high ground rents and the high prices of city properties that push the buildings higher and higher into the air. Without these lofty and expensive structures some of the earning powers of the land must go to waste. The renter or owner would be paying for them but failing to use them. It is for him rightly to apportion the factors in his investment or to lose. All these laws, then, are equally applicable to urban and to rural rents.

Transportation and city life. — Developing urban and surburban transportation have, then, been effective to extend the city over a much wider area, greatly limiting the rise of rents upon inside residence sites and greatly enhancing the rental values of outside properties. Comparing cities equal in size, the modern city is far less crowded then the mediæval; there are more separate houses and with larger yards — in general, a smaller population to the acre. It was not so much the need of the mediæval city to be walled that caused it to be compactly built, as that, being compactly built, it could be easily walled. To fortify in this way a modern city of equal population, were it necessary, would be a much more serious problem. And likewise, with these large areas, go greater expenses in paving, grading, sewering, and for gas and water service, together with constantly greater difficulty in lighting and policing the streets. The high taxes of the modern city life are in no small part a matter of the mere area which the modern city covers.

Transportation and business rents. — But, curiously enough, the business district of the modern city has become not less, but more,

compact with the growth of urban transportation. As a matter of ready connection of one urban line with another, and of easy transfer, it is important that all the urban and suburban passenger lines have something like a common terminal. Thus all tend to converge at the city center, like the spokes at the hub of a wheel. This point of common meeting becomes, in turn, still more emphatically the municipal center, and a center which, by the very necessities of the case, cannot cover a very wide area. Even with the device of an inner loop line connecting the different converging roads, the area of congestion is not greatly extended, and a sharp line of demarcation in rental values is set up between the property within the loop and that outside. Inside this narrow area, values shoot skyward almost as obviously as the buildings. Grouped compactly about this favored district will be found the remainder of the distinctly downtown shopping and wholesale business houses.

The subordinate business streets of the city will mostly be found to follow the lines of passenger traffic out into the residence districts. In no city of the modern type of growth could a great retail shop be situated as is "Au Bon Marché" in Paris — a mile or so away from general business, across the Seine, in a quiet residence quarter. Nor, with the general trend of things, is this business likely long to thrive in this locality.

Business rents and prices of goods. — Leaving it still to stand as dubious whether for the next few hundred years agricultural rents will rise or fall, but holding it as certain that urban rents will sharply rise, we now turn to examine the relation of shop rents and of factory rents to the selling prices of commodities. Is it true that the rent of the urban site, *the ground rent*, paid by the factory or by the retail business or by the wholesale establishment, is not a price-determining cost in the commodities sold? Do the products sell readily or sell at good prices because the rent is paid, or is the rent paid because the products sell readily or at good prices? Are the rents the results or the causes of the prices? What, for example, shall be said of the occasional advertisement of some competing merchant that he can make low prices because his rent outlays are low? Or is it rather true that the prices, so far as rents are concerned, are fixed by some suburban dealer, some man on the outside circumference of things, at the extensive margin of retail competition,

where the land rent is approximately *nil?* Or are the prices fixed at the intensive margin, the point at which the non-rent cost of putting the goods upon the market sets a limit to further sales — where, that is to say, the site gives no further services in selling, the incidental crowding and "messing" of things imposing the choice between more space at more cost and a reduction in the volume of business?

What does cursory observation indicate as to the bearing of ground rent on price? Do retail merchants at the extensive margin in the city or others in the small town, sell more cheaply or less cheaply than the down-town dealer in the city? And when, if either, and why? The neighborhood grocer in the suburbs can, if he must, charge more than the down-town grocer, because the former really sells a little different good — the same material thing plus, however, utilities both of place and of time — ready and immediate accessibility. Likewise, one commonly pays more for pins and needles and thread and cotton prints and sheeting, if one buys in a small local shop. But this is due to the fact that the customers are few: both the non-rent costs and the rent costs may be higher relatively to the volume of sales. In view of the paucity of customers and the non-rent costs of making each sale, the land is not worth a high rental.

Place utilities and costs. — But possibly the country dealer is not safely to be compared with the city dealer, because of the freight rates which the country dealer must include in his prices, so far as his goods are bought from the wholesaler. Lumber, for example, is likely to be higher in the small town. But the same fact of freight holds for the suburban grocer: he buys from the down-town wholesaler and from the down-town produce broker. His costs are thereby greater, as the condition on which he can supply the higher suburban utilities of place and time to his suburban customers. In those quarters of town in which the customer neither can nor will pay much for these utilities, the dealer must make good these extra costs by economies in other lines — a less attractive or convenient or tidy or spacious place of business. His goods may be dearer or cheaper than the goods of his down-town competitor, but they are evidently not precisely the same goods.

Nor is it clear that the down-town goods are always the cheaper. On one street, they may indeed be appreciably cheaper than on some other street a bit more conveniently reached by customers. If the customers go to the cheaper street, they pay a part of the

purchase price in walking. Again, it is not rare that the wares of one dealer are especially high, because it is good form to have an account with this dealer — the best people all do it; all high-class dressers have their clothes made by tailor X. The same thing with the mark of another tailor might occasion some humiliation — that is, would not be the same thing for the purpose.

So far, then, as observation indicates, differences in prices do not, on the whole, seem to be explicable by differences in rent, but rather to be mostly due to other causes peculiar to the respective cases under examination. Nor even where one merchant gets higher prices than another does this seem to be due to the fact that his rent is higher, any more than the higher rent appears to be due to his higher prices. The same goods sold by him are not really the same: they are really better for some of the purposes for which goods are bought. And when the prices are clearly due to differences in location, there again are discovered differences in goods in point of convenience or place or time.

Rents are selling costs. — Here, then, if anywhere, is there a strong case for the doctrine that rents, — this kind of rents, — do not enter as causes into the selling prices of goods, but are rather the results of the prices.

But the truth is that rents are one of the costs of selling goods. In large part, they are like advertising outlays, wages of salesmen, provision of rest rooms, free directories, chairs for the ladies waiting for the car. They are the costs of furnishing the particular kind of good, a good of a particular place and time; or they are a hire paid for the opportunity of meeting so many customers and of making so many sales. The choicer locations promise larger gross gains, through the larger number of sales or through the especially favorable prices at which the sales may be made Therefore the competition of dealers seeking these gains mostly cancels them, to the advantage of the landlord in his larger rents. Rent is the market price of the gain-promising opportunity. If the prices which can be charged are higher, the rent costs tend also to be higher. Or if the other expenses of selling are diminished, the rent is the charge collected for what, without the rent, would be a saving and a gain. The case is like paying wages to better laborers

for their greater product, or like paying salaries to efficiency engineers for devising economies of operation. These added services impose costs upon any operator precisely because he cannot have these additions without paying for them. If one merchant will not hire the land, another will. It may well be true that whatever customers one merchant gains other merchants lose, — that the control of the more favorable site has only a purely competitive and differential significance, — but this is not at all peculiar to the problem of business rents. It is precisely so with most advertising competitions and with the larger part of the outlays made for commercial travelers. It is the admitted vice of many competitive activities, that they increase the cost of achieving a given result, that they are socially wasteful, and that, increasing the costs, they commonly increase *the necessary price.*

The ultimate cause is the scarcity of sites. — But this is not the final reply to the contention that business rents are not price-making costs. It is true that if the landlord must accept a lower rent, this would not diminish the price, but merely leave a larger profit to the tenant merchant. But the difficulty is ultimately neither in the rental nor in the personal distribution of it, but solely in the fact that the convenient and attractive and popular business sites are limited. And this is true in the very nature of the case; not all the different streets and corners can offer preferable locations. The inevitable congestion of merchandizing at the intersecting streams of travel — that is, in the down-town district, and particularly at the focusing point of all the different main streams of travel — limits the supply of good sites, and thus makes the peculiar products of convenience of place and time a limited quantity, and therewith the price of these conveniences high. Goods of similar weight and texture and flavor, sold under conditions of less convenience, are really not the same goods. Precisely so with those forms of advertising which merely avail to create a demand for things; they are really processes of attaching to things a desirability which the things previously had not. Thus the process is merely one of the creation of value on terms of

submitting to a cost. In larger part, the rents of business sites are of this general sort. It is, however, occasionally true that the rent of a particular site is paid for the advantage of achieving a lower selling price, which lower price may carry with it the opportunity of larger sales; this site commands a high rent because of its especial adaptation to the policy of low prices with large sales, — wherewith is to go a generous aggregate return upon the business done. But forthwith, the higher rental has to be subtracted from the larger gross profits: the higher rent expresses the fact that the site is the controlling influence in the case.

The following chapter, accepting cost of production as a correct, albeit not an ultimate, explanation of the market prices of ordinary consumption goods, will inquire how far, and through what bearing, cost of production is to be regarded as also the explanation of the prices of durable consumption goods and of durable production goods. If durable production or consumption goods are rightly taken to depend for their prices upon the capitalization process, and intermediately upon future incomes and discount rates, is cost of production therefore to be accepted as explaining prices only in the limited field of immediately consumable goods, and as leaving the prices of all other goods to be explained through a separate and entirely distinct analysis? For example: has cost of production no bearing on the prices of pianos or of harvesting machines?

CHAPTER XIV

CAPITALIZATION VERSUS COST AS DETERMINANT OF PRICE

Hire and service. — We have seen that the existence of a rent or of a wage or of any other hire upon any productive thing is the proof that, for the purposes of those who rent or hire, the thing in question is productive — promises gain, aids in the acquisitive process; but that it does not follow that the rent or wage paid by the individual who hires is the precise correlative and equivalent of the significance of the thing to society or even to him; the hire is merely the market price of the service.

Services present and future. — We have seen also that some of the services that men are willing to pay for are obtained from goods immediately and completely utilized; that there are other valuable things for the enjoyment of whose services a considerable period of time is necessary — where, in mathematical phrase, the service is something like a function of the time; that some of these are durable goods employed in putting commodities upon the market — mostly goods like agricultural lands, machines, patent rights, franchises, milch cows, sheep, barns, working cattle, delivery wagons, freight cars — goods which are used in the process of producing other goods or services, where the ultimate products are ordinarily to be sold; that others of these durable goods are used directly for purposes of consumption, whether by the owner of them or by some one else — *e.g.*, town lots, automobiles, library books, driving horses, houses, carriages, pleasure boats, furniture, clothing, pictures; that it does not at all matter to the reality of the income rendered by goods of this second class whether one lives in his own house or lets it out for rent, — drives his own horse, or puts it in his livery barn, — uses his own furniture clear of debt, or is paying for it in installments at the furniture store, — rents it out to some other user, or makes it part of the furnishings of lodgings or of his home — precisely as it does not matter as a question of production whether one consumes the vegetables from his garden or sells them, whether one eats the eggs from his poultry house or markets them. If one is the owner of the goods, he avoids paying the hire of them, but is

compelled to make the larger immediate outlay in the purchase of them. If he hires, he pays the more in the long run, but has not to pay so early.

Present price and future service. — The present worth of a durable consumption good is due to the fact that to own it is to be entitled to a series of valuable services from it: it may excuse one from the recurring necessity of renting it; or it may impose upon some one else the necessity of paying to the owner a rental income upon it. The good is productive in either case, whether as bringing the owner an income of services, or of money with which to buy commodities or services, or as excusing him from outlay. In buying a durable good, you really acquire by one payment the right to a series of services — operating, so to speak, not at retail, but at wholesale, in services accruing in a time sequence.

Everywhere value depends on income. — Thus it has become clear that as ultimately any good acquires value through the fact that it is adapted to the rendering of valuable services — psychic incomes, as these are sometimes called, — that, as wool commands a price because of the good derived from its use, — the result that it controls, — precisely so a sheep is valuable according to the results which it controls in valuable wool, etc., a cow is valuable for the valuable milk that it gives — meadow lands for the recurring crops of valuable grass — houses for the continuous shelter they offer — pianos for the hours of valuable pleasure they afford — pictures for the valuable beauty that they untiringly present — bonds for the interest that they pay, stocks for the dividends that they yield. So, to cut grass from a field or to gather fruit from a tree is merely the owner's way of severing his maturing coupons from the parent stem. If, in fact, grapes were to be gathered from thorns or figs from thistles, thorns would no longer be thorns, or thistles, thistles. All possessions that bear rent trace their value to the rent that they bear — all equipment goods to their forecasted earnings — all durable consumption goods to the services that they promise. The price of any one of these bases of incomes is the present worth of its expected future returns. The price not only of every investment in stocks, or bonds, or farms, or business blocks, or tenement houses, or annuities, but as well of every investment in houses, or furniture, or pictures, or books, or bicycles, or automobiles, or senatorships, is the present worth of what the investment will return in income — whether a money rental of interest or of dividends, or beauty, or comfort, or leadership, or fame.

Capitalization gives capital. — And it has been shown to follow from all this that, given incomes to start with and

given either a discount rate or a discount attitude for the capitalization of these incomes, there forthwith necessarily emerges capital.[1]

Cost, capitalization, and price. — But in accepting the capitalization process — where it applies — as an explanation of market price, what place is left for cost of production as the determinative fact? This is the problem of the present chapter. The capitalization doctrine purports to explain market price through an appeal to the future earnings of production goods and to the future uses of consumption goods. It is a forward-looking explanation. Cost of production, on the other hand, explains price by appealing to the past of the good, to the conditions attending its production — a backward-looking explanation. Is one or the other of these doctrines false, or is it possible to harmonize them?

The reconciliation, if possible of attainment, must be arrived at by one more appeal to the fundamental generaliza-

[1] And thereupon it follows that free human beings are not capital. They do not get capitalized. The future earnings are not, under the perspective process, summarized into a total of market worth. Not only this; but capital is a possession, a subhead under wealth. In order, therefore, to be capital, human beings must be reduced to individual possession, to property, a source of income to the possessor. The concept of wealth or capital connotes something external to the owner, an item in his environment. Therefore, no human being can rank as part of his own wealth, nor can any part or subdivision of him — his legs, or arms, or strength, or beauty, or digestion, or intelligence — be wealth *to him*. Otherwise, the distinction between owner and thing owned, possessor and possession, subject and object, property holder and property, capitalist and capital, organism and environment, is obscured and violated. Such things, therefore, as are not the subject of individual possession lack the logical possibility of ranking within the capital subdivision of wealth. Nor is this the only difficulty in terming free men capital: capital has only one mode of expression, the value or price expression. Value and price are market facts: no unmarketable thing can be capital, being neither to be had nor to be retained by the sacrifice of price. Men do not get funded under the discount principle into an aggregate of wealth. Otherwise, wages, like rents, would be mere interest in one of its many manifestations.

tion in economic theory; namely, the fixation of price through demand and supply. Cost of production, as we have seen, purports to explain price only in the sense and to the degree that it explains supply. But if the past of a good explains the supply, may not the future of the good explain the demand? Or, to put the same thing in another way: May not cost determine the reservation price, the asking price, the while that capitalization of the future earnings determines the price offer, the demand?

This view certainly approximates the truth, but falls still something short. The difficulty is that earning power is not rightly viewed as independent of supply. On the contrary, the earning power of any one item out of the supply is very obviously influenced by the volume of this supply. The greater the supply, the lower must fall the rental in order that all be rented. This rental in turn is lower because, with the larger supply, the earning power of each item of the supply is a smaller earning power.

Cost and capitalization complementary doctrines. — But precisely by this door is our exit from the difficulty: precisely through this fact is the reconciliation achieved and the harmony made complete. Cost affects price by affecting rent. It is by the cost that the supply is explained, by the supply that the rents are explained, by the capitalization of these rents that the price-demand is explained. Cost and capitalization are therefore not antagonistic, but supplementary, doctrines in the theory of price. Neither doctrine alone suffices for the explanation of the price of any durable good.

Durable consumption goods. — It may be taken as clear that a rent upon a consumption good for a limited period of time is, in the main, to be explained on the same principles as the market price of any immediate consumption good. With either sort of good, this price is affected on the supply side by the offered volume of goods. So far as the cost of production of any good enters into the case, it is through the elasticity of the supply under cost of production influences. When the supply is thus elastic, the cost of production is

the explanation for the volume of the supply — the scarcity aspect of the problem. On the demand side, the analysis appeals to the sequence from utility to marginal utility, thence to comparison of marginal utilities, thereby finally arriving at the different price offers of the different intending purchasers.

That the services of long-time consumption goods are, by the very fact of the remoteness of some of their services, different in some respects from the services of immediate consumption goods, needs no further emphasis. Note again, however, that there is, for every long time consumption good, as for every immediate consumption good, a price-demand schedule and a supply-price schedule. When once this demand schedule and this supply schedule are arrived at, the method of adjustment of demand and supply into a price equilibrium is the same for both classes of goods. There are buyers' surpluses and sellers' surpluses in either case. As some consumers would, if necessary, pay more for a loaf of bread, or a banana, or a pound of meat, or a ton of coal than they are forced to pay, so some buyers would pay more for a house, a chair, a hat, or a tennis racket than the price actually imposed. The price demands are many and different in either sort of demand schedule, and plot equally for either case into a falling price-demand curve. Equally for either, the market price is to be presented as the point of intersection of the curves of demand and supply.

Durable production goods. — Superficially viewed, the determination of the market price of the use of a long-time " production " good would appear to follow the same analysis — on the one side a limited supply, on the other side a demand upheld and explained by the fact that the good affords a gain-rendering service. And, in truth, so far the same analysis really holds for both classes of goods. Nevertheless, there are supremely important differences between the problem of prices for consumption goods and the problem of prices for production goods. With each immediate consumption good there is a demand curve, or schedule, which is fixed for the case and for the time. If the supply

is increased, it must be marketed further down upon the demand curve or column. With a smaller supply, an unchanged demand absorbs the offerings at a higher level. The demand, however, does not change with a change in supply, but only the number of purchases made. It is indeed a vicious usage to speak of the elasticity of demand, or of demand rising with a smaller supply, or falling with a larger supply. It is merely the purchasing or consuming that is elastic, not the purchasing or consuming attitude: the demand curve cuts the supply curve at a different point of intersection, but it is the same demand curve.

Changing supply modifies the conditions behind demand. — But with production goods, whether of the immediate or of the durable sort, this fixity of the demand curve does not hold. The demand is motivated by the prospect of gain from the production goods. With any change in the supply of them there comes a change in the total return from them, and in the return from each item of the supply. The gain significance of each item of goods upon which the demand rests, changes, therefore, with every change in the supply. Lands, machines and men have commonly various fields of production open to them. Thus, the very increase or decrease in the supply implies and necessitates an attendant change in the volume of the demand. The ordinary demand and supply formula — entirely accurate for consumption goods — is therefore applicable to production goods only as subject to the recognition of certain very important distinctions.

For example: do we, in fact, know that just as an increase in the supply of wheat or of shoes or of automobiles or of houses will depress the price, so must also an increase in the supply of laborers lower the wage, or an increase in the supply of land or of plows lower the rents? Can it safely be said that, with more laborers or with more machines, the wages or the rents must fall? Or, if there be a fall, can it be foretold how rapid this fall must be? If the labor supply in any one industry were halved, would the individual wage be doubled? With a consumption good, surely, the price per item, or even the aggregate price, might more than double

with this restriction of supply, were the commodity one of a very inelastic consumption. But is it possible that, if the number of laborers were twice as great in the aggregate, the average individual wage would fall by one half? This would involve the assumption of an unchanged aggregate result in valuable goods. In point of fact, this unchanged aggregate result is not certain, or probable, or even possible. Inevitably the aggregate product must be greater. And if, concurrently with this increase in the aggregate supply of labor, there went also a corresponding increase in the supply of land and of other equipment, there would be no need that wages fall. There would be, indeed, no possibility of fall, since there is excluded, by assumption, the possibility of less favorable proportions between the labor and the other factors of production coöperating with it. And with the labor doubled and the other factors remaining stationary, there is still an increase in the total product of goods to be distributed among the different coöperating factors; but clearly the aggregate product cannot fully double, since only one class of factors of production is doubled. In order to double the products, all of the coöperating factors of production would need to be doubled. The per capita income of labor must therefore fall, if it be only the laborers that have doubled

Changing relations of factors. — This is merely to extend the application of a principle already established in the discussion of Rural Rents. Fundamental to the analysis is the law of the Proportion of Factors. A change in per capita product does not measure all the change which may befall any one distributive share out of the aggregate product. Not solely the amount to be divided may change, but the terms of the division. We have seen that, as, with increasing population, a less favorable relation comes to exist between the number of human beings and the productive equipment at their disposal, — that is, as production is driven to utilizing the poorer grades or the lower productive powers of the soil, — the ratio of total product to the number of producers is a less favorable ratio. The per capita product suffers by the fact that the number of laborers has, say, doubled, while the other factors of production have fallen short of this rate of increase. To double the product there must

have been a doubling of the aggregate productive power. If it is the labor factor that has increased, the social dividend is smaller relatively to the number of wage claimants; the divisor increases faster than the dividend, with bad effects upon the quotient. But the point now especially demanding emphasis is that this does not report the whole case: there is another and equally important aspect. *The distribution of the aggregate product must be taken into account.* Land rents are a constantly increasing share out of this diminishing per capita product. The landlords are gaining out of the aggregate dearth. Wages suffer, therefore, from two causes: a smaller per capita product, and less favorable terms of division.

The same principle may be illustrated in reverse order: the Black Death may be taken to have swept away one half the population of England — leaving unimpaired, however, the supply of land and of other productive equipment. It thereby became possible for the remaining population to enjoy the advantages of a better per capita equipment of land and appliances — a better proportion between labor and its complementary productive goods. The result must be a higher net wage, derivative in part from the higher per capita output, in part, from the smaller fraction of this output apportioned as rent to the owners of the land

Different analysis for different durable goods. — Thus the problem of the rents and hires of gain-rendering factors, while still a price problem in every case, calls for more than the usual analysis applicable to consumption goods, whether durable or immediate, and carries the analysis into some of the more intricate problems of distribution. The process of the determination of rents and of wages is intelligible only when viewed as part and parcel of the distributive analysis under which these remunerations are fixed. An individual's demand for a gain-promising good depends upon the increase in price product which the good promises for him. The market rent of this auxiliary in his effort at price gain — its distributive share — is established as the outcome of a distributive process — a process apportioning to it a share out of the value produced by it in coöperation with other gain-giving factors.

No specific efficiencies. — But again, let it be noted that there is in this analysis no warrant for the conclusion that any factor at pro-

duction has any specific and definite utility or efficiency proper to it, but only that to each competing bidder it has its separate significance for gain. Since the entrepreneurs are different, there goes a different significance for each different entrepreneur.

Nor is there better warrant for the inference that the gain efficiency is a separate and distinguishable efficiency even to the individual entrepreneur. All of the different distributive shares are awarded through the competitive bids of entrepreneurs, each of whom is able to estimate the significance to him of the good for his purposes of gain, — that is, to tell what it would be worth his while to pay rather than go without the good. But this is not to ascribe either a specific or a separate gain-power to the good. (See Chap. X.) To all but the marginal renter or hirer, the advantage from having the good is greater than the price. All but the marginal man would pay more if they had to. And for him, in truth, what he, as a maximum, will pay, tells not how much gain the added good causes, but rather what his aggregate complex of goods, inclusive of the good in question, will afford him of gain more than he could achieve without it. A reaper minus its blade will harvest nothing. To add the blade, and to get the harvest, affords no sufficient basis for ascribing the whole harvest to the blade.

Summary: Earlier chapters have made it clear that cost of production bears on price only so far as it bears to explain supply; that demand has always to be taken for granted, supply being then valid as explanation only in the sense of serving as the next succeeding step.

But even so large a function as this can be ascribed to cost of production only for the prices of immediately consumable goods. With durable goods, either of the production or of the consumption sort, further supplementation is required; the capitalization process must be appealed to. But the capitalization process is not rightly to be regarded as applying exclusively either to the demand or the supply side of the price equation. Unless as supplemented by the capitalization process, neither term in the equation is adequate to its function. With durable goods, each term, in fact, reacts upon the other in a way entirely peculiar to this class of goods. This interaction takes place through the process of capitalization, which thus becomes in some sort an intermediate term in the equation. True, cost of production fixes the supply and determines the reservation prices. But what fixes the demand prices? These are derivative from the future earning powers,

which are in turn derivative from the volume of the supply. But these future earning powers do not directly take the form of bidding prices for the goods. The capitalization process is the sole method by which these future facts transform themselves into immediate paying dispositions.

The next step in the argument will therefore concern itself with a detailed examination of the process of capitalization — a process which thus far in the discussion has been taken mostly for granted. The following chapter will show that the explanation of the price of every durable good involves an appeal to capitalization; that all durable goods are capital precisely because they depend for their price upon this process — a process which in its very nature involves an interest factor; that given future incomes, and therewith discount, or interest, rates, there emerges capital, and that anything so emerging is capital; that it is nevertheless a misconception of the problem to interpret the process as involving *market* items of income or of rental, and *market* rates of discount to apply to them; that, as all bids in the demand schedule are individual bids, the data and the processes by which these bids are arrived at must also be individual; that the mechanics of price-fixation are the same for all the different classes of marketable goods — a demand schedule and a supply schedule and a market price as the point of intersection; and that therefore the capitalization process must underlie and determine all the items of reservation price in the supply schedule and all the items of price-offer in the demand schedule — the entire process here, as everywhere, requiring a thoroughly individualized analysis. There is neither need nor room for the social organism in this particular field of doctrine.

CHAPTER XV

CAPITALIZATION, THE PROCESS BY WHICH FUTURE INCOMES REACH A PRESENT WORTH

Future service. — Enough has, perhaps, been said as to the basis of the compensation paid for the time use of agricultural lands or machines or durable consumption goods or residence lots or residences or pianos or chairs. And it has been sufficiently shown not to matter to the actuality of the earning powers of goods whether they remain in the hands of the owner or be rented out by him for hire. In the one case, he receives an income in valuable services; in the other case, an income in money.

It has also been made clear that while some goods render only one service, — and that a future service, — with most durable goods the value is dependent upon the power of rendering a series of services. But in any case this value is reflected to the present from these future services, and depends upon them in precisely the same way as the value of an immediate consumption good depends on the ability of the good to render its immediate service. Lands do not earn rents or render services because they are valuable, but they are valuable because of the power to earn. Milk or butter is not valuable because the cow is valuable, but just the other way about, — "By their fruits ye shall know them."

Time perspective. — We have already investigated the relation of the supply of goods to the earning power of these goods in the hands of different individual bidders, and have likewise investigated the relations of the different bidding dispositions to the fixation of the market rentals of the goods. There are, however, some extremely important questions yet to be examined: If an object will give x of pleasure

now, and precisely the same x of pleasure in the future — will men prefer it now or later? and how far? and when and why?

With some goods, and for some men, the very fact that the service is not available now, but is only later to become available, is a reason why the particular good in question suffers in present importance. Whether this is necessarily and always true, or is true only in the balance of cases and for the larger number of goods, we need not now discuss. Whether, indeed, it would be true of money, — suspended purchasing power in general — would be an open question, were it not for the pecuniary organization of society and for the opportunities for gain which attach to the immediate possession of money or currency. If observation shows that goods purchasable later at no appreciable change in price take on a lower present price, accordingly as the service is more and more remote from the present, all this may possibly enough be explicable through the simple and obvious fact that present *money* commands a premium over future money. It is not necessarily to be inferred that future *goods* other than money suffer on their own account a discount relatively to present goods.

But however this may be, — and probably nobody accurately knows or ever will know, — the actual society and the men in it are in the money economy. Remote goods are likely not to command as high a present price as do present goods. So much is clear; so much must be admitted as true in the large and in the general average, even though the exceptions should seem to be numerous. Many of these exceptions, however, are a mere seeming. For example, it will not do to say that keeping ice from winter to summer is a case illustrative of a larger value in the future good as compared with the same present good: winter ice and summer ice are not one good, but two. So wheat is stored from fall to spring and apples from the fruit season to the dry-fruit season, because of changing conditions attaching changes of significance to the goods in question. So, other goods are preserved from the time of abundance to the time of dearth; so savings are made for the needs of

old age without any necessary attention to the rate of interest. But if a case could be presented for choice, free from any disturbing influence of changing objective fact, or of changing individual need, or of changing individual provision against need, and offering only one point of difference, the mere difference between *now* and *then*, and if every complication of monetary competitions and monetary interest were excluded, — whether in this assumed case the present service would, with the average of men, outweigh the future service in appeal to present choice, is something which we are not likely ever to know. This perspective in favor of the present is clear with some human beings; children manifest it often, perhaps generally ; with savages, at all events with some of them, it appears to be characteristic. But the contrary disposition is not rare among men, even where the future makes no especial demand as a matter of mere safety. For anything that we know, the balance with the average of men may be in favor of the future and its needs as against the present and its needs.

Time perspective with money. — What we do, however, seem to know, is that, when rendered over into the denominator of price, a future desirable fact commonly suffers in worth as against a present fact objectively the same. The rule holds clearly enough for future dollars as against present dollars, and for all cases where the present and future are submitted to the dollar denominator and the dollar calculus. The thing remote in time, when subjected to the money statement, suffers in the perspective of desire when rendered into a present money statement, very much as things distant in space suffer in the visual perspective. One is disposed to pay less money for the thing which is to be enjoyed not now but then. On any other terms than of a saving in present outlay, one prefers not to buy now but later. The year-off service has indeed a present money value, but a value which is less by virtue of the year of distance. There is a weakening of the disposition toward money payment — a time discount in money.

The rate of price discount. — But how great is the money discount? To point out that a good will, a year hence, ren-

der its unique service does explain why the good commands a present price, but gives no basis of telling just what this present price is to be, or why it is not greater or less than it is. Nor is it sufficient to know *now*, were this possible, what one would *now* promise to pay a year hence for the service *then*. Still less can one person's total of price in the present be directly deduced from a prospective series of services or of incomes scattered over many years. What you would to-day bid for the assignment to you of the right to receive one hundred dollars a year from to-day, is obviously to be arrived at only with knowing the degree in which, for you, the future money is depreciated or discredited or discounted, in terms of present money, by this fact of futurity. What is the rate at which, in terms of present dollars, the future dollars suffer in your estimation? What is your angle of perspective? On what basis of computation do you translate the year-away fact into a present equivalent? What is the interest rate by which, in your personal discounting process, you place a present worth in dollars upon a sum of future dollars?

The individual problem. — Note accurately what we have before us as our present problem, and precisely what are the terms involved in it. We are dealing (1) with the money-bidding disposition of a particular individual; (2) with a definite sum of money — say, 100 dollars — to be received at a definite future time in one payment; (3) with the rate of discount applied to the case by this particular individual. The amount, the date, and the rate all being known, all is known that is necessary for deducing the paying or bidding disposition of the particular individual. But note also that, in so far as this $100 is not certain but contingent, there is a further allowance to be made, an allowance which must differ with different individuals. Men differ widely in the disposition to accept risks and in the appraisal which they apply to risks.

If, however, the case in hand is one, not of a sum of money payable at one time certain, but a series of sums payable each at its respective time, *an annuity*, the problem measurably changes, though not in its essential aspects. The in-

dividual's bid appears now to be more like a composite or total of a number of different present worths. One man may especially favor the early installments and give them a relatively high present estimate in making up his total bid, the while regarding the remoter installments less cordially and subjecting them to a more severe marking down. Other men may, for reasons peculiar to their situations or dispositions, discredit the earlier payments at a higher annual rate than the later. Some investors are looking for long-time loans and some for short. Each individual has his own peculiar limitations upon his total immediate fund for investment, — his own peculiar stress of present need, his own peculiar forecast of the time and amount and severity of his future needs, his own peculiar prospects of future plenty or of future lack. But each arrives finally at his total present bid for the series of payments, the *annuity* under consideration. And equally whether the annuity is one involving hazards of repudiation or is free of all taint of contingency, the different individuals must always be differently affected, because of the difference in the importance attached to safety, or of the difference in disposition or ability to accept and carry risks.

Durable wealth as annuity-bearing. — It is evident that a government bond amounts to a long-time or to a permanent annuity. Corporate bonds promise a series of annuity payments, ending with the payment also of the principal sum. Corporate stocks are of the same general nature, only that the aspect of contingency is much more pronounced. All of the foregoing render their incomes — so far as there are any — in terms of future money, and present the problem of reduction to terms of present money. *The objective fact of money income* to be received is the same for all of these investments; in this aspect there is no room for individual estimates or interpretations. In this regard, all stand on the same and ultimate basis of future dollars, to be transferred into present dollars. Thus the different bids — and different bids there inevitably will be — must find their explanation in the differences of opinion as to the

degree of hazard, or in the differing dispositions to operate in hazards or, finally, in the different ratios by which future dollars that are certain suffer depreciation when rendered over into terms of present dollars.

Not so, however, with respect to the income from other kinds of durable wealth. A dwelling house, a horse, a picture, a piano, a farm, is a bearer of rent, and the purchase of it is in essence the purchase of an annuity, a series of incomes. But commonly the earning power of the instrumental good, or the service from a durable consumption good for a given period of time, differs with different men. One man can make a particular instrumental good signify appreciably more than can another man. Differences of equipment already in hand may be important here: A sheep farmer does not need a dairy farm; the man with no carriage wants no horses; another man may need a horse, but only a horse precisely matching one that he has already. Likewise, a particular picture or piano may quite suit the tastes of one man, or may, in quality of service, be especially well suited to the limitations of his purse or to the size of his fund available for the things of art, or may especially well, or especially ill, harmonize with the tint of his wall paper or with the style or color of his furniture. All sorts of influences are, then, to be recognized as effective in varying the money rentals attributed by different men to the same objective rent-bearing fact. And, in the degree that the influence in question affects the prospective income in terms of money, it inevitably affects the bids of prospective bidders and the reservation prices of prospective sellers. And it is only as bearing upon these present money worths that any of the influences under analysis — fixed money income, contingent money income, estimated earning power, quality and kind of satisfactions promised, each individual estimate placed upon these, the different individual provisions of purchasing power, the different individual fields of alternative investment or of alternative expenditure — may come to bear upon the prices which the market attaches to any good as the present and aggregate worth of its entire series of future valuable services.

What influences affect the various bidders' bids. — The truth, then, is that it is only in point of the influences lying behind the different bids in the demand schedule and determining these bids, that the theory of price for durable goods differs from the ordinary price theory, or makes addition to it, or modification of it. The view, here presented, must, however, be admitted to diverge seriously, at some points, from the currently held doctrine of the precise nature of the capitalization process. Thus for a thorough understanding of the issues involved, the generally accepted doctrine must be presented.

First, however, it is to be remarked that the contrasted views are in essential harmony to the extent of holding that, in a large and general way, some sort of capitalization process must be appealed to in the explanation of the present worth, — the cash price, — of any sort of durable good, and that there is one and the same process for durable production goods and for durable consumption goods. The points at issue have to do with the precise nature of this process.

The current view. — Put shortly, the view which is currently received holds that, with passing time, there accrues upon any durable good — a house or a machine, for example — a market rental, say of $100 a year, for a certain term of years. If the rentals or hires are 10 in number, the present worth is reached by discounting, at the market rate of interest proper to the case, each of these payments into a present market price. The market price of the property is the sum of the present worths of these future market incomes. If a property promise an unending series of rentals, the price will be that sum of money which, put at interest at the accepted capitalization — or discount — rate, will annually produce the rental under consideration. Thus, no matter what influences may be behind the determination of the respective rents of production and consumption goods, these rents, when once determined, fall under one and the same capitalization process in attaining to a present worth. So, if the rent of a house or a farm or a machine, after allowing for upkeep and repairs, is $100 annually, the market price in a 10 per cent country will be $1000. With an unchanged annual earning power, as rent or hire, but with the interest rate at 5 per cent, the same property will be worth $2000.

The points at issue. — Note now that fundamental to this analysis is a *market* rental and a *market* rate of discount. If the good is not a rented good, appeal is made to what the good would command as a market fact at the market rental.

No question can be made that goods do command — many of

them — market rentals, and that most other goods valuable to the owner would, if rented, command such rentals. Nor has the problem of the distributive process by which these rents are imputed to the goods any necessary part in the capitalization analysis. Doubtless there are such market rents. But the point is that *these market rents are not the rents with which the capitalization process has to do.* The view contended for diverges, then, from the accepted view in two respects only — in holding (1) that not one market earning power, but the different earning powers to the different individuals, most motivate the respective individual price offers; (2) that not the market rate of discount, but the different rates of discount of the different individuals, must be the rates — if any rates there are — by which the respective earning powers are discounted into the different individual price offers.

These issues should be clear, and, if clear, should be readily resolved. The question really is, what lies behind the individual farmer's disposition to pay, say, $200 for a harvest machine. This farmer's minimum price offer stands as a $200 demand item in the aggregate demand curve. Why? Is it that this machine rents, or is rentable, at $10 net per year, and that the market rate of discount is 5 per cent? It may equally well be true that for him, upon his particular farm and in his peculiar circumstances, a harvester would count for an added gain of $20 per year; but that, at the same time, the sum to be invested is worth to him 10 per cent if he owns it, or would cost him 10 per cent were he to borrow it.

With durable consumption goods also, the argument is parallel. Men are willing to offer for things as a maximum what they think they can afford. But what is it to "afford"? As with goods immediately consumable, wheat or butter or stove wood, so also with durable consumption goods, there are as many different paying dispositions as there are different men. All of these different paying dispositions, say for stove wood, are items in the demand column. Commonly, in fact, an individual has several different price offers for different increments of supply; that is to say, the individual's different price offers appear at different points along down the demand curve or column. The price of the wheat or of the butter or of the wood is the equating point between the whole supply of it as over against all the different price offers bearing upon it. In short, there must be recognized for immediate consumption goods, for durable consumption goods, and for durable production goods, a price offer schedule, a demand curve, made up of many different price paying dispositions. It will not do to assume that any dur-

able good has one single demand price for all intending buyers, deduced from one single rental value, and subjected to one single discount rate in arriving at a market price.

It is in this aspect that the earlier analysis of the process by which a market rental is imputed to a productive good is to our immediate purpose as making clear that the productivity to different entrepreneurs is a different productivity. Assuming an aggregate supply of goods, each item of which controls a series of valuable services for each individual entrepreneur, and subjecting these different incomes of service to the different discount rates of the respective entrepreneurs, we are in possession of the data from which the different demand prices of the different entrepreneurs and the reservation prices of the possessors are deduced — the key to the derivation of all the different demands bearing upon the supply.

The current doctrine unprecise. — The analysis here offered imports, therefore, no denial of the vague general truth at the heart of the doctrine of capitalization now under criticism — a doctrine not so much wrong in essentials as inaccurate and incomplete in its details. Its defect is that it speaks in general averages or, possibly, conceives society to be an economic organism, or, perhaps, adopts the attitude of the broker or speculator who, rightly for his purposes, computes the value of any share of stock according to the income rate which it renders, subject to a discount rate expressing the earning power of investments in similar stocks. The broker applies, in truth, a very simple and entirely adequate, but a purely representative and secondary, method of arriving at his own discount rate. He has no concern with the forces determining the various personal discount rates of the various purchasers of the properties he offers for sale — just as the merchant is not concerned with the volume or the size of the marginal utilities between which the individual consumer must choose in arriving at his demand price for any particular consumable good. The actual market situation affords data enough for the purposes of either of these middlemen. — Our concern, however, is with the processes of the ultimate investor or consumer.

Both views over-rationalized. — But the truth probably is that, excepting in those cases where specific future money incomes are rendered over into a present money worth, either of the contrasted views is about equally open to criticism. Both seriously err in an extreme over-rationalization of the

psychological process involved. How far, indeed, does the individual actually proceed in his logical analysis of the situation, and what does he actually do in deciding how much money he can afford to give for some particular long-time consumption good, say a piano? There are other ways in which he may use his $500; if he does not buy the piano, he will presumably scatter his $500 among a wide range of little things. His choice in such case lies between the aggregate utilities of these many and indefinite things, as over against a vague vista of piano utilities. There is no need for a greater rationality in the case than that he realize the quality proper to the dollar everywhere — that it can be spent only once, and that he make a choice declarative of which line of alternatives attracts him the more. If the prospective buyer of the piano is in debt and is paying interest, or if he is at choice between an investment for gain as against the purchase of the piano — if, that is to say, the piano vista of services is set over against a money magnitude and an interest gain — is there any need that the series of services controlled and promised by the piano be subjected each to its future valuation in terms of a price statement as of a specific future time, and then that each be rendered over into a price worth in the present, and thereupon a total of these separate worths be arrived at as the aggregate present worth of the piano? This would certainly be one way of capitalizing, but is it the only way, and is it the actual way?

The principle of present worth. — What, indeed, is the principle of the entire doctrine of present worth? One thousand dollars, due one year from date, is, as a present worth, merely the amount of money which, put at interest at the assumed rate, will in a year amount to 1000 dollars. So, again, the present worth of a permanent annuity is that sum of money which, put at interest at the assumed rate, will return the annuity payments. If the interest rate is taken at 6 per cent, a permanent annuity of 60 dollars is worth 1000 dollars, because 1000 dollars at interest at 6 per cent will give a yearly return of 60 dollars. This is what present worth means, and this is all that it means — the equivalent in cash of an item, or a series of items, of future income.

In the light of this principle, what shall a man pay in cash for a series of services extending into the future? The outside limit is evidently reached when the point comes at which the same sum can be equally serviceably used in the purchase of other goods, or in gainful investment in some direction commanding an equally desirable money return. The ultimate principle in the case is really a simple application of the doctrine of opportunity cost. If the choice actually lies between the piano and the placing of the money at interest, the piano will be purchased only when its prospective services are as attractive as the prospective returns upon the investment bearing the money return. To pay 500 dollars for the piano implies that the present importance attached to its series of prospective services is not less than the importance of the 500 dollars in its alternative application as an investment promising a pecuniary return.

A present thing desired now for its future service has present utility. — Recall that any bidding or paying disposition expresses a choice between competing utilities and is a declaration in favor of that one bulking the greater in the present estimation. Recall also the meaning of utility in its strict economic significance: it is the strength of the appeal to choice; it expresses merely the fact that a thing is wanted. To say that a thing has great utility is merely to say that it is wanted greatly, that it evokes a strong intensity of desire. Accurately, we do not want things because they have utility, but their utility *is* merely this very fact that we want them. To say that the utility is the cause of the want, or that we desire things because they give us pleasure, is essentially repetitive; as well say that something hurts us because it pains us, or that fire burns us because it is hot to us. So to assert that things will later satisfy a desire — that we shall some day want them, that we now see that they will some day be desired — is equivalent to saying that they are now desired, that we do now want them, that they now have utility. For the purpose, therefore, it means nothing to inquire whether a future good is a present good, whether the thing of appreciated future service has present utility, or whether, instead, it merely prompts

a present estimation of a future utility. If the future service calls forth a present desire to have the thing, the thing has utility now; a present want exists for it: it evokes a present desire. The degree in which the future service excites the present want is the degree of the present utility. The discount principle connotes, then, merely the degree in which the remoteness of the services detracts from the intensity of the present want — much if much, little if little, and very possibly, in some circumstances, not at all. Only in the degree, then, in which remoteness signifies in any particular case, if it signifies at all, is remoteness important to the present analysis; and it is then important only as bearing on the price which will be offered for the remote thing, as against the strongest competing opportunity for the use of the purchasing power. The importance of remoteness is merely in its effect upon the relative strength of the opposing present wants for alternative things.

The present discussion will serve again to emphasize the fact that economic analysis need not attempt the solution of all, or of any, of the difficult psychological problems connected with the theory of desire, and cannot safely commit itself to any particular school or method of solution. It is enough for all economic purposes that these desires exist, that these wants are with us, that these utilities *are*. We have merely to report the manner of their working as they affect the disposition to pay, and thereby affect the fixation of price.

Our present problem, it must also be noted, is not at all to investigate the causes of the prevailing rate or of the different rates of interest in the market, or even to investigate the causes of that particular rate which is employed by the individual in arriving at a present money bid for a future specific money income or series of incomes. We have merely at present to distinguish clearly the terms of the problem, (1) the rents or the payments to accrue, and (2) the degree of discount to which these are subject, separately or together, in getting them into an individual's present price bid. And together with this, we have to make clear the substantially similar process, as it applies to those other long-time production or consumption goods to which the same definiteness of income does not fully attach. And to this end, we are compelled to recognize and emphasize the fact that interest and discount are, *in their strict*

and limited sense, phenomena which belong solely to the price economy and are proper only to money relations. They are competitive phenomena in the price régime. To render a future money payment over into a present money worth is essentially a discounting process in the strictest sense of the term, even though the process presents itself as merely the determination of what sum of present money is of equal desirability with the future services in prospect, — even though, that is to say, no definite discount rate and no precise method of computation attend the process. The facts of the case, and all the necessary psychology of it, are summed up in the conclusion that the bidder can be prevailed upon to offer only this much now for that much then. Possibly enough, he has no reason beyond the fact that there are open to him alternative opportunities of investment, which alternative opportunities may, in turn, be equally unspecific in their mathematical relations. Nor is even this much to be asserted of the process by which he arrives at his present buying disposition, say, for a piano. This piano will forthwith enter upon its career of recurrent and frequent, — though irregular, — offerings of service. Were the alternative to the buying of a piano the renting of another piano — at, say, 3 dollars per month — he might, it is true, arrive at the decision to purchase through some more or less distinct use of a mathematical process of discount. But renting may well be impossible or not in contemplation; in that case, one plainly does not attach a future price to each one among all the long series of future valuable — but not separately valued — services, and thereupon proceed to discount each of these separately priceable items of service into its present worth of price, and then proceed to make up his total bid as the sum of these different and separate present worths. If this is really the logic of the case — the implicit logic carried out to its ultimate reach of care and rationality — it surely is not the actual psychology of the process. And yet, if the discount process in this separate and exhaustively logical aspect is really involved, it must have to do with these future facts in their price-reported aspect. Nothing but a future value or price can be discounted into a present value or price; nothing but a price can be reduced by a certain per cent to yield a price remainder.

But this precise sort of discounting is not what actually takes place. And note again that the problem in its present formulation does not involve the question of the fixation of the bidder's interest rate, or any question as to when, where, and how he gets this interest rate, but rather the question whether he actually has an interest rate for the purposes of the problem. Doubtless he may, and probably

does, attach some more or less definite significance to the use of his funds for purposes of gain, whenever he has a gainful use under consideration; he may truly have and recognize alternative possibilities of gainful investment for price results; or he may be so pressed by his other wants as to have a certain general level of effective protest against the piano direction of outlay. This much must be admitted. And surely he does somehow or other decide that he will or will not purchase, and up to what level his price offer may go. But, equally clearly, he does not arrive at the decision by the use of any series of separately valued services of the piano as the basis for his price offer.

The capitalization theory in either of the contrasted views is, then, susceptible of an interpretation which, if seriously held, would carry the logic of the capitalization process to a point of precision and coherence of which it is mostly innocent; rightly indicating the character of the process so far as it goes, it would then project it far beyond the reach of its ordinary and actual going. Even, indeed, as applied to ground rents, annuities, and stocks and bonds, the usual formulation of the capitalization theory severely strains the terms of the individual experience, in purporting to record in precise detail the manner and method by which the durable good attains to its market standing in terms of price. Subjected, however, to the reservations and limitations which have been here set forth, the theory appears to rest upon a valid principle and to illuminate a field of phenomena which otherwise must remain obscure.

This chapter has discussed the problem of attaching present market prices to such goods as promise future incomes. To the end of solving this problem it has been shown that the phenomena of interest and of discount are essentially one phenomenon differing only in the standpoint of time from which the fact of increment is viewed; that in a pecuniary society, either is a premium of present purchasing power in terms of money over future purchasing power in terms of money; that in actual market transfers, all future money incomes — or all incomes for which money would be paid to have them or foregone to retain them — suffer a discount in arriving at a present money price; that the process by which the present price is fixed is the capitalization process; that the present money worth of any future income or of any series of incomes constitutes *capital;* that the change in

money worth with passing time is one manifestation of interest — interest (or discount), capital, and capitalization being therefore correlative terms, and the phenomena indicated by them, interdependent phenomena; that every possession that renders a valuable service remote in time, or that earns a series of services accruing with lapse of time, is a possession that earns interest, is a possession that gets its present worth through the process of capitalization, and a possession that is capital to the amount of its present price; that most durable goods render not one future income, but a series of incomes; that precisely because all durable goods render income which accrues with passing time and depends for its accruing upon the passing of time, all durable goods are subject to the capitalization process and are therefore capital.

It is further clear that the process of market adjustment by which the price of any durable good is fixed is precisely the same demand and supply process that has already been studied with regard to goods of immediate consumption; that the capitalization process has therefore to do neither with the market rentals upon durable goods nor with the market rates of interest upon different classes of loanable funds, but only with the way in which the possessors of the goods arrive at their reservation prices, and the bidders at their offer prices; that, being different men, the buyers differ from the sellers and from one another, and the sellers from one another; that therefore there can be no one single series of earning powers attaching to any good, which series of earning powers is capitalized into the present market worth of the good, but rather that there is a different earning power for each different seller and buyer; that each seller or buyer has also his separate discount rate and his separate process through which he arrives at his individual present worth of any future income, and his maximum bid for it; that therefore individual capitalizing processes underlie both the demand and the supply schedules of the market process; and that thus the market process, if made both actual and intelligible, is not to be analyzed as a social or aggregate or organic process, but must instead be strictly and thoroughly individualized.

And further still: the doctrine of capitalization here presented bases itself upon the individual processes lying behind the reservation prices of the sellers and the bidding prices of the buyers. The analysis must therefore be psychological

rather than logical in emphasis, and must carefully avoid interpreting the individual process in terms which, while logically possible, are not psychologically actual; it must recognize that behind capital as a present market fact there are individual attitudes and processes having to do with both a future and a present, and with the relations of future to present; that discount is precisely a process of translating the future price items into present price items; that psychologically there must therefore be an actual present, and incomes which accrue in this present; that, admitting freely that there is no logical present, but only an eternity past and an eternity to come, and that therefore there can logically be no present incomes, but only future incomes more or less remote from a present which logically is not, there must nevertheless be an actual psychological present, merely — if for no other sufficient reason — because there are *present* worths and derivative *present* market prices; that the process of capitalization is the process of getting the psychological future into an actual and psychological and market present; and that, in the individual process, only those incomes get capitalized which, being recognized as future, get discounted into a present paying disposition. Capital, therefore, does not embrace all goods commanding a price — ice cream for example — but only those goods which, recognized as future in some part of their service, involve the process of discount in arriving at their present market standing.

Chapter XVI will show that every contract of deferred payment is precisely what the name suggests — a contract for future payment as substitute for immediate payment; but that actually, and almost necessarily, the contract runs to pay a sum of *money*, as the agreed equivalent of the sum for which the debtor was originally accountable; that the contract of deferred payment is merely an exchange of present price for a promised future price — a transaction in money terms, in which the change in the money sum is due to the lapse of time between the date of original accountability and the date of the actual payment. *The present sum is the agreed discounted price of the future sum.* Thus the phenomena of interest and capitalization and capital are all present in every relation of deferred payment.

Commonly, however, not all of these three aspects are specifically set forth in the terms of the contract: in the ab-

sence of any specific agreement for the payment of interest, the laws or the customs of society attach to every obligation to pay immediate money the further agreement that if payment is not immediately made, the deferred payment shall include a sum in addition to the principal as indemnity to the creditor for the delay.

The chapter will, however, concern itself not with the interest process by which an equation is established between future money and present money, but solely with the payment made in discharge of the principal sum; the problem will be to determine the precise nature of the obligation of deferred payment with reference solely to the principal sum; to outline the requirements which strict and ideal justice would attach to the relation; the rights which, in order to safeguard the interests of both debtor and creditor, the law should attach to the contract; and the nature of the modifications which the law should read into the contract in its making or should impose in its execution.

CHAPTER XVI

THE DISCHARGE OF DEBTS: DEFERRED PAYMENTS

The present chapter will attempt to establish, among others, the following propositions:

(1) That if credit relations are to exist, the use of a standard of deferred payments is a necessity;

(2) That it is practicably inevitable that the medium through which current exchanges take place, namely, money or its equivalent, should be the medium in which deferred payments are stipulated;

(3) That whether the medium be stable or unstable is important only in relations of deferred payment, or in relations essentially similar;

(4) That money must be a defective standard of deferred payments because of its inevitable instability — because, in other words, it does not promise an equality between the loan as made and the loan as repaid;

(5) That neither the instability to be avoided in the standard, nor the equality to be sought through the standard, can have any reference to value; nor can this stability or this equality find its test in labor or pain or sacrifice, but only in utility.

Value expresses any one specific exchange relation. — The market value of any given thing is the exchange relation in which, quantitatively stated, it stands to some other one thing, quantitatively stated — not wheat against corn or hay against pepper, but only that so much of a particular grade of wheat buys so much of corn of a particular grade — so many bales or pounds of hay of a specific sort buy so many pounds or packages of pepper of a specific sort. In other words, *value* reports an exchange relation of any one thing against some other one thing. *Price* reports the relation in which some one thing actually exchanges against the particular thing used as money. Price, therefore, is one instance of value — the exchange relation of any particular good to the specific thing money.

Barter exchange and price exchange. — In a barter economy, therefore, all price relations would be lacking. In the money economy, on the contrary, all value exchanges must be lacking, excepting

so far as barter lasts over into the new order. But value *relations* must still exist even though value exchanges have entirely ceased. Exchanges of one good for another do essentially take place, only that they take place *through a medium*, a price good, a money. Hats for money, and money for shoes, amounts to hats for shoes. An exchange for money is only the halfway house to a completed barter. The actual exchanges in a price economy are of this halfway character. Thus, all value relations must be deductions from actual price relations. By comparing the relation of wheat to money, its price, and the relation of shoes to money, their price, the value relations of wheat to shoes are computed — not actual exchange relations, for these are impracticable — but potential relations in the sense either of those exchange relations which would exist, did any barter exchanges actually take place, or in the sense of those ultimate barter relations which the use of a medium of exchange makes easily practicable.

Exchange media and specialization. — It is obvious that in a society lacking any established medium of exchange, division of labor and specialization of employment might exist very much as in the present society. Fairly definite value relations would establish themselves between such classes of goods as were in considerable measure exchanged against one another. But the absence of a system of money and of price would not mean that there would be no medium of exchange, but rather that there would be an indefinite multiplication of media. By trading and retrading, the possessor of any commodity for exchange would finally get possession of that particular commodity which he could exchange for the particular thing that he wanted. The inconveniences in the barter system would inhere in just this necessity of so many intermediate trades and in the practical difficulty of working out any particular series of these. Each man would then, as his necessities should dictate, be employing not one medium, but various different media of exchange, as intermediate between his original wares for sale and the consumption goods which he was seeking; but these intermediates would be different for different men, and different for each exchange problem, and different at each of the stages of each separate problem.

Money exchange. — The need, therefore, of one established medium is evident. A money economy means merely that some one particular commodity has been specialized to the intermediate function and is generally accepted in that function. This general intermediate is money; trades through it are price trades; a standard is thus established; from the different exchange ratios of commodities to money, their different prices, value relations may be deduced for goods that never meet in actual exchanges.

In all trades, therefore, which are not barter trades an intermediate must serve as price medium and as standard. Price is merely the money *quid-pro-quo*, the payment side of an exchange. But if the payment be not immediate, if credit be granted, in terms of what obligation shall it run? Inevitably there must be a something promised as the thing in which to make payment. The thing actually selected is in every case the standard for that case. If the exchange had been completed in the present, and at the same time were not a barter exchange, an intermediate — a standard for the occasion — would have been necessary. So, if the exchange be not a barter exchange, and payment be delayed, the intermediate thing must be a standard for that occasion. What standard will serve this particular need?

The standard in deferred payments. — Evidently the very thing that was sold can hardly be the particular thing that the creditor will desire as payment. A farmer who sells hay does not want hay in return; his business is producing hay for sale. One ordinarily sells things because he wants something else, just as one ordinarily buys the thing that he does not produce. And if hay were in fact agreed upon as the thing in which payment should be made, the hay would then itself be the standard for that case. Whatever is agreed upon as the particular thing in which payment shall be made is the standard for that agreement. If the thing sold is not the thing in which return is to be rendered, what other standard will serve better? The creditor rarely knows months or years ahead what particular goods he will turn out to need, or the debtor what particular goods he will have with which to make payment. Thus that commodity is best selected as standard into which the debtor can always and easily convert his resources and which, in turn, the creditor can most easily exchange for what he turns out to need That commodity is money. The same conveniences impose its selection as standard of deferred payments that dictate its use in current exchanges. In either use it is both intermediate and standard; the two functions are, in fact, not two, but one.

The function of the standard. — We may, then, take it as established that some one thing, or possibly some one

specific group of things, must be selected as standard in any relation of deferred payment. But precisely what is the function of this standard? If it work justice between debtor and creditor, it must do this by bringing about some sort of equality between the loan and its payment. This equality cannot, therefore, be an equality in value: for what precisely would equality in value mean?

Equality in price we already know. The actual contract calls for this and nothing more. This sort of equality, then, requires no definition, however greatly it may stand in need of essential explanation. That two things are equal in price means merely that they exchange for the same sum of money.

Value is not quantitative. — But is this the same thing as saying that they are equal in value? And in what sense is it the same thing? Obviously, since price is an exchange relation, it must thereby be also a value relation; two things may have the same price value — may be equal in their command of money. But is nothing more than this implied in an equality of value? If a horse exchanges for a cow, there is here in the very terms of the case an equality; the horse buys the cow or the cow the horse. But does this equality in value imply more than the mere fact of exchange, that one thing buys the other? Is it also asserted or implied that the value of the cow is one quantity or sum of value, and that this quantity or sum is equal to the quantity or sum of value which is in the horse — that horse and cow have each a value of its own, characteristic of it, intrinsic in it, attaching to it, possessed by it — a quality or attribute, a quantitative something, precisely as great as the same sort of quantitative something belonging to the other — this quantitative equality of the two thus underlying and explaining the fact that they exchange one against the other?

The fact is that value is not a quantity. That the value of any one horse is any one cow means nothing and is nothing more than the assertion of this fact that the one particular horse buys the one particular cow. That two things exchange against each other imports no common quality in which

each equally and quantitatively shares, whether utility or cost or value — unless indeed it be merely this quality of exchangeability implied and manifested in the sheer fact of exchange. Take it that this one horse buys this one cow. How much quantitatively as an independent thing is the value of the horse? If it be precisely as much as the value of the cow, how much then quantitatively and independently is the value of the cow? As much as that of the horse? And if it be found that the horse will also buy a piano, or this or that or other third thing, does this in any way help? What, in turn, is the value of the piano? There is no goal in this "infinite regress," but only a recurrent return to the original point in the circle.

Value is actual only as price. — We have already seen that market value occurs in the price régime only in the one particular manifestation of price, and that value in any other sense can record not actual exchanges of goods against goods — exchanges by barter — but only deductions or computations made possible through actual price exchanges — mere derivations and inferences as to what value exchanges might take place if only they should take place, or as to what value *relations* may become actual through actual *exchanges* in price. And earlier chapters have made clear also that market prices are not proportionate either to the labor or the pains or the feeling sacrifices of production on the one side, or to the service or utility or gratification in consumption on the other side, but are merely the equating point between the different reservation prices, based on costs in money terms, on the supply side, and the paying dispositions of consumers, as expressed in money terms, on the demand side. Costs cannot be reduced to any common denominator of pain, or price offers to any common denominator of utility. Nor do costs sum up or report the amount of labor, or even the amount of wages, incorporated in the product, but only the sum of marginal sacrifices reduced to the common denominator of price. And similarly on the demand side of the price equation: the fact that one will pay, at the maximum, say a dollar for a thing — in other words is marginal at this price offer — means only that at any higher price

he would prefer to use his purchasing power for something else. A marginal price offer implies merely an equality of advantage between two competing lines of expenditure, without suggestion as to the absolute advantages of either. Equality in market price indicates solely that different things buy equal sums of money, and can indicate nothing more, unless it be that their cost prices may have been equal or the paying dispositions equal, as affording a possible explanation that the prices are equal.

So much as this being accepted, what can equality in value indicate other than mere equality in price? The market knows, it is clear, no other value equality than this, and can imply no underlying qualities that equal prices do not also imply.

Equality in value an empty phrase. — The truth is that, for all purposes of economic analysis, not only is equality in value over intervals either of space or of time an inaccurate or a meaningless and useless concept, but also that, even in current exchanges, it is an almost meaningless, and an entirely useless, concept. For, to mean anything in any one of these relations, this value equality must be assumed to be a quantitative equality, and must be worked out through a reference to something chosen as a standard and therefore also taken in turn to be itself quantitative.

Quantitative notion criticized: spacial relations. — What, for example, would it mean to assert that a horse in America has less value than a horse in China? It may possibly mean that a horse is less useful here — perhaps would earn less income in silver or gold, or would afford less pleasure — in one case a money standard, in the other a vague utility standard, but in neither case a value standard. Commonly, however, the assertion would mean that the horse would exchange there for more money — would command a higher price — gold or silver being in this case the accepted standard. Or a higher level of command over things in general may be the fact in mind. But how should one ascertain this higher level of command, excepting as a deduction from the prices not only of the horse, but of everything else involved in the comparison? And if general purchasing power

be the thing intended, this is not a value test, but a utility test. The reference cannot be to things in general in point of weight or surface or length or volume, but only to things in general in their aspect of serviceability.

Time relations. — The same impossibility presents itself of asserting equality of value over intervals of time. To say that a horse is worth more now than ten years ago, is to say that it has more utility, or that it bears a higher money price — will, that is to say, command a larger total and average of things in general, or will command more of the one thing, money. In neither case is it a value fact, otherwise than in the sense that the command of the standard is itself one instance of value. But it still remains true that the quantum of standard signifies merely through its bearing on the quantum of things in general. And even to say that the horse will purchase more of each and every other thing, were this really in mind, would be to assert not a higher value, but an indefinite number of higher values.

In same place and time. — And the same difficulty is really present in the assertion that any one thing to-day has the same value as another thing to-day, unless it be true that nothing more is intended than that one thing buys the other, or that each will buy the same amount of some other one thing, or of every other thing, that the other buys — in the second case an equality in terms of a standard, in the third case a general equality in purchasing power; and in this last case, all things together are, under the utility denominator, somehow lumped in to constitute a standard — unless, indeed, they are left unassembled as distinct and separate value relations. But, even as assembled, this equality in purchasing power with reference to everything else at once, can be inferred from only one fact, and then only inaccurately inferred, namely, from the fact of equal price. It is only against money that all things do in fact exchange. We know that a piano of a given grade is worth 1000 bushels of corn of a given grade, only by comparing the exchange ratios of the respective commodities to money. It would be difficult, and probably impossible, to find these two commodities exchanging against each other.

Money has no one value, but only values. — The stability of the standard, therefore, cannot be a stability in the sense of an underlying value incorporated in money. Value, as we have seen, is always an exchange ratio between specified

commodities. A given thing may, therefore, have one price, but not one value. Gold, as the money commodity, has no price, but many values. Any commodity indeed, whether gold or other, and whether money or not money, must have as many different values as it has different actual or potential exchange relations.

By what test is any standard capable of stability or fluctuation. — Whatever stability is attainable in the relation of deferred payments is, therefore, only such stability as may attach to the standard, whether money or other, that is employed in the case. But how determine whether any actual standard is stable? *Price*, equally with value, is not adapted to the measure function. The money, say gold, returned as payment is not a measure of anything; it is merely the agreed form of payment, the selected standard. The difficulty with either price or value for the purposes of a measure is that each is lacking in the quality essential to measurement. The impossibility that value in the market sense be measured, or that anything of value can serve as a value measure, lies in this very fact that it is the very essential of a measure that it possess in itself the quality it is to measure in other things. Only something of length can measure length; only something of weight can measure weight. And the choice of a measure is necessarily arbitrary; to express any dimension of any given body is possible only in terms of relativity and only by reporting it as such a part or such a multiple of the dimension of some other body. So many pounds of weight is merely so many times the weight of another chosen body, taken at a certain purity, under prescribed conditions of temperature and of altitude.

Measurement is quantitative. — Both market value and market price fail in the requirement fundamental to the notion of measurement, namely, that a measure must be quantitative and must measure things of quantity. Neither value nor price is a magnitude or a quantity, but only a ratio. True, a ratio can be restated as a fraction — $\frac{1}{2}$ or $\frac{1}{3}$ or $\frac{7}{8}$ of unity — but it becomes quantitative only in becoming concrete, as $\frac{1}{2}$ or $\frac{1}{3}$ or $\frac{7}{8}$ *of something*. Thus, that the exchange ratio between hats and shoes is, say, 2 to 1,

offers no possibility of giving quantitative expression to the exchange ratio of hats and shoes to each other or to anything else. Nor does the selection of a conventional price commodity avoid the difficulty in any other sense than that it makes possible of comparison the ratio of horses to gold with the ratio of hats to gold — all to the conclusion that, while horses stand to dollars as 100 to 1, hats stand to dollars as 1 to 1. This expresses merely the two different exchange ratios held by the respective commodities to gold — asserts, that is, two different powers of command over gold, and then declares that one power is one hundred times as great as the other. But merely as different ratios to gold no measure is disclosed: (1) The value of gold is itself possible of expression not as a ratio of exchange to commodities in general — for there is no such exchange possible and no ratio for its expression — but only as one or another of countless different possible ratios. (2) This same ratio of 100 to 1 between horses and hats is equally valid to express the relative ratios of countless other pairs of commodities to gold, *e.g.*, pianos and kitchen tables, houses and sewing machines, shoes and laces. The ratios of things to one another in Brobdingnag were the same ratios as in Lilliput. The real difficulty is again that all these various ratios to gold are mere ratios of exchange, and are comparable simply and only in this reference, and are entirely lacking in any ultimate basis or content. In this respect the case differs from true measure ratios of weight or length. With weight the reference is to the quantitative objective reality of pressure or stress — with length, to the objective quantitative fact of extension. With the value ratio, however, there is nothing but the ratio.

The meaning of stability. — What, then, can be meant by a stable standard of deferred payments, it being admitted that there is no such thing possible as stability in *value?* The money commodity being itself the standard commodity, it can mean nothing to speak of money or of gold as stable in price; and it has been shown to mean even less to speak of it as stable in value. In what, then, consists that stability which is so desired? Why is it so desired? and how does it matter?

It must again be recalled that the problem is mainly one of achieving justice between debtors and creditors. Inasmuch as all contracts for deferred payment must run in terms of a standard, and inasmuch as it is practically necessary that all of these contracts run in terms of money — gold, as the standard — the changing exchange-relations of money to the countless other things which it is used to purchase become of great importance.

The effect of changes in the values of money. — As an intermediate in exchange, money expresses general purchasing power. But if the receipt of it always followed promptly upon the sale or service for which it was received, and if the expenditure of it always followed promptly upon the receipt, it could evidently not greatly matter what the general price situation might be, or how greatly or abruptly this situation might change. Changes come to signify only as they occur between the time of the receipt of the money, or of the right of receipt, and the time of expenditure, or of payment. A money must be a defective money if, getting it to-day, one cannot tell what it will purchase to-morrow; or if, selling goods to-day, one cannot tell with reasonable assurance what the money will buy when it shall be paid a month later; or if, loaning money to-day one be uncertain what it will buy at the expiration of the term of the loan. This would be to make the medium of exchange itself a speculative thing.

But why should it not be speculative? — If one has borrowed an ounce of gold or a pound of gold, may he not justly return an equal weight in payment, just as if he had borrowed a ton of iron or a barrel of flour? There is risk of change in all other commodities; why should it be an evil that there be also risk with the medium of exchange when used as standard? Each party to the contract for gold accepts this risk of change — a risk against which no agreement to return any specific thing in the future can be entirely free. So — it may be argued — no one is wronged; both parties to the contract know its risks; it is a fair agreement, only it is in some measure speculative. If one has borrowed a pound of gold, let him return a pound.

But the special fitness of the standard commodity for its use as standard rests in this very fact that it is a commodity relatively and especially free from this menace of change. A standard is ideal for its purpose in the precise degree that it approximates stability. It is defective — no matter how much better it may be than some alternative commodity — in the precise degree that it falls short of stability. Otherwise the money itself would introduce into business new and serious elements of speculation. The standard is chosen with this very purpose of avoiding to the utmost these speculative modifications in contractual relations. Possibly enough there will never be found an ideal money — probably there will not. And it may well be true that there is less of speculation in gold contracts than in other contracts. But a perfect money would not be speculative at all. If the standard of payments itself fluctuates, this is in itself an evil.

Deferred payment merely a special case of price exchange. — The foregoing considerations will gain new force with a further analysis of the relation of deferred payment. When you sell for cash, you get the right to buy commodities or services. From your point of view, the exchange is really complete when you have used your cash in making purchases. Likewise — while not so clearly, yet ultimately as truly — all cases of notes and bonds and credits in general are really protracted instances of the same sort of exchange. The wholesaler sells his groceries at three months' time. Instead of receiving his pay immediately in commodities, or in the money with which to buy commodities, the payment side of the trade is postponed for three months. It is important, then, that the medium of exchange shall be stable in purchasing power, else one party to the trade is helped and the other hurt by the mere fact of the delay. So when you loan money, you really transfer the right to things or services; when you are repaid, you get in return the right to things or services. Thus a loan is, in essence, a long-time barter. If you have sold hats and lent the proceeds of the sale to X, it amounts to the same thing as selling to X the hats or the goods which the sale price of the hats will buy. When he pays you, he really returns to you your remuneration for the hats. If, therefore, his payment to you be a just one, the money in which he pays must not have gained or lost in its control over the means of satisfying wants. An appre-

ciating money is, therefore, an injustice to the debtor — a depreciating money equally an injustice to the creditor. It is thus evident that it is only the existence of credit relations that makes the stability of the standard seriously important.

Test of stability is in utility. — But it still remains to seek out the test according to which the standard may be declared either stable or unstable. If the general trend of prices be taken to afford the test, in what consists the ultimate bearing of prices?

An appeal to the function of money in current exchanges will again serve to clarify the analysis. The sale of a hat for money, precisely because it is a transaction of exchange, reports an exchange ratio — a value relation — between the hat and the money. So, the payment of this money for a pair of shoes reports one more exchange ratio between money and shoes. Two value relations, two ratios of exchange between gold and goods, have been established — all to the result of working out one exchange relation, the barter relation, between hats and shoes. But suppose the case to be that only one exchange has occurred and only one exchange ratio has been established — the hats having exchanged directly, by barter, for the shoes. Here, in the very terms of the problem, is a simple value exchange. But note the nature of the terms in this value *ratio:* both are items of goods, useful things, not value items. Exchange does not transfer values, but goods. Ratios of exchange, value ratios, are ratios between things — things which are not, for the purposes of the exchange, either price or value items, but only items of goods. The step from hats to shoes is merely a step from one useful thing to another; but it is divided into two shorter steps. Just as the purpose of the isolated producer is utility, the satisfaction of his wants, so ultimately the meaning of product to the producer for the market is the utility of the things into which he will exchange it. Likewise his cost outlay is ultimately a magnitude of utility or of disutility rather than a magnitude of value. Value, an exchange ratio, really has no magnitude. So, again, from the point of view of the consumer, gain in utility is the sole ultimate motive of trade. What one pays for a thing more than he would, if necessary, have paid, his buyer's or seller's surplus, while it must first appear in a money statement, must finally resolve itself into goods obtainable through money — into utility, not into price or value. Producers at the margin, like traders at the margin, are such by the fact that the utility in prospect and the utility sacri-

ficed are at balance, — are at a ratio, one to the other, of equality, — and all of this irrespective of how greatly, for the different marginal traders respectively, the absolute magnitudes of the balancing services and sacrifices may diverge — irrespective, that is to say, of whether the marginal case present a ratio of 5 to 5, or of 2 to 2, or of $\frac{1}{2}$ to $\frac{1}{2}$, — provided all the while, of course, that even this much of comparability may be assumed between the feeling magnitudes of different men.

The principle of payment is indemnity. — In view, then, of the fact that exchange is ultimately, in individual motive, a problem of comparison between alternatives of utility — that the *quid-pro-quo* on either side is, in last analysis, a utility quantity, that consumption has to do not with value, but with utility, that market values are mere exchange relations between things of service, and that price relations are mere intermediate steps in the ultimate barter of goods — the problem of a just and adequate payment to the creditor, or of a just and adequate sacrifice to the debtor, resolves itself into a problem of indemnity on the one side and of sacrifice on the other, into *quantity of utility* rather than into terms of price or value. A standard is working properly for purposes of deferred payments accordingly as it meets this test of equality of utility — of indemnity. It must return the same total of general purchasing power — of command over the general range of commodities in the proportions in which they commonly enter into consumption. And because a general rule of payment can take no account of the infinitude of individual differences among men in the construction of their budgets of expenditure, this principle of indemnity can apply only impersonally and in a large and general way to all contracts of deferred payments.

The ultimate test. — The general system of prices, therefore, is indeed the test, or, more accurately, presents the facts by the use of which the test of utility can be applied. If the price system itself afforded directly the ultimate test, all commodities — pepper, flour, meat, coal, quinine — would be equally important in the case, pound for pound, yard for yard, or bushel for bushel. Inasmuch, however, as utility is the test, each commodity must be taken in the

due proportion presented by the relative consumption of it in terms of price. Thus, we arrive at the acceptance of the multiple standard of deferred payments as the ideal standard — a standard based, not upon any one commodity, and not equally upon all commodities entering into general consumption, but upon all commodities taken in proportion to their importance in the average individual budget of expenditure. The dollars returned in discharge of a money obligation should be a sum of dollars equivalent to the principal sum in respect to power over the general schedule of commodities — " a method not intended to avoid the use of money as a means of payment, but to compute for purposes of justice the amount which, returned, would constitute fair payment. It may be doubted whether the method will ever come into general use or would prove entirely practicable if adopted; but the principle on which it proceeds has been accepted by most economists as indicating an approximately ideal standard." [1]

Utility test relates solely to consumption goods. — A detailed treatment of certain aspects of the problem of deferred payments must be postponed to other pages. There is neither space nor need here for inquiring whether the test of utility points to equality in marginal utility or in total utility, or for investigating the bearing of changes in the standard of living upon the ideally just payment. It must suffice for the present to have established the test as one of utility. One other difficulty remains, however, for present discussion. The argument thus far has implied that equality of payment has reference solely to consumption goods, and that upon the basis of these exclusively is the tabular — or multiple — standard to be constructed. If, however, this is the correct view, it is not quite obviously or axiomatically so. Surely the purchasing power which was loaned was the command of farms and of machinery and of long-time consumption goods, like houses, and furniture, as well as the command of commodities of immediate service. Equally clear is it that men desire income-earning properties as well as present goods. When the interest rate falls by one half, this means that the man who desires to provide for his own old age, or to provide a given income for those dependent upon him, must save twice as large a principal fund. So, if one decides to buy a farm of a given net an-

[1] Davenport, *Outlines of Economic Theory*, Macmillan, 1906, Sec. 163.

nual rental, this will require from him twice as large a purchase price. If, then, the only use of purchasing power were in the acquirement of investment properties, a fall in the rate of interest might seem to demand, as the payment of a loan, a corresponding increase in the number of dollars to be returned. If consumption goods are falling in price and investment properties are rising, both classes of goods have seemed to some economists to require consideration in constructing a multiple or tabular standard. Both classes of goods absorb purchasing power; shall not the return of equal purchasing power be computed in view of both classes of goods?

But it is to be said, on the other hand, that all capital investments and all capitalization — present worth — of long-time consumption goods, or of ground rents, or of annuities, are merely rights to future consumption reduced to a total of present worth. All represent postponed consumption which is ultimately to mature into a sometime present consumption. Is there any force or purpose in a standard which shall impose as payment upon a loan the return of rights to future consumption goods — future incomes — instead of rights to immediate incomes?

Professor Irving Fisher and Harry G. Brown have cogently argued that investment properties must be included in the tabular standard: "To base our index numbers for time contracts solely on services and immediate consumable goods would, therefore, be illogical. Though the practical difficulties may amount to little, yet, in theory at least, they are important."[1]

But are they important even theoretically? In view of the fact that the future incomes commanded by the investment properties are merely postponed consumables in place of immediate consumables — mere abstinences from present consumption, — and in view of the further fact that an investment made at market prices is merely a future consumption chosen as substitute for present consumption, and that these future goods are, at the purchase prices of the properties controlling them, merely the market equivalent of the present consumables that they displace — does it at all matter whether they are or are not included? To pay in present consumables is to pay in something that will, if it is so desired, buy these future consumables, and will buy them upon an exchange basis precisely representative of their relative importance at the time of payment. This is the rate of exchange which the market fixes for present goods against future goods.

[1] See Irving Fisher, *Purchasing Power of Money*, Macmillan, 1911, pp. 213–217; and Harry G. Brown, *Quarterly Journal of Economics*, August, 1909.

Consider Fisher's argument: "If the rate of interest should fall, the borrowers will be benefited [having to turn over less of farms, or machinery, or annuities, or ground rents] and the lenders injured. The value of land and of any other property would rise in comparison with the value of food and shelter, and so on." But this payment in food, shelter, and so on, when exchanged over into land, houses, etc., will buy less of these, precisely because the land and houses representing future food and shelter are now worth less in terms of present food and shelter. Abstinence has become easy and is, therefore, cheap. Justice to the creditor does not require that he shall be paid in future food and shelter on the basis of the earlier and more difficult abstinence. It has become easier to make provision by saving for future food and shelter. When the saving has become easier, he should not have the earlier and more generous reward for it.

The purpose of this chapter has been not primarily to examine or solve a problem in the theory of money, but rather to lay the foundations for a discussion of the theory of interest — to show that the contract in which interest manifests itself is a contract of deferred payments, and is commonly and typically, and almost necessarily, a contract for the payment of future money; and that therefore the interest problem has to do with the charge or premium or rent which accrues with time upon an obligation for the payment of money; that interest, as the equating point of demand with supply, is the agreed differential between present money and future money; that there is, in the nature of the case, nothing else that it can practicably be; that to conceive of interest as a premium of present value over future value, or of the interest problem as a value problem of any sort, not merely dissociates the problem from the actual facts of business, misrepresents it, makes it difficult or even insoluble, but also, in the last analysis, makes nonsense of it; that to state the problem as one of price is merely to repeat the evident and patent fact; that to associate the interest problem with the problem of deferred payments does little more for the interest problem than to help toward getting it accurately stated; that the problems are fundamentally distinct — deferred payments an examination of what ought to be as matter of justice — interest an analysis of the causes and the processes of what is; but that the two problems are alike in this — that neither has anything to do with value, or with any aspect of value, but

only with money and the relations between present money and future money.

Interest, then, can, in its very nature, manifest itself only in the relation of deferred payment. It has its basis in the postponed discharge of the very obligation that the deferred payment discharges; it is a surplus above the sum returned as deferred payment, and is a surplus paid precisely because the payment is deferred; it is a contract to pay money for money, and the rate is a per cent per dollar per period.

Thus, while rent pays for a given thing which is later to be returned in the form of the specific thing that was lent, and is merely the hire of that thing without reference to the ratio between the price of the thing and the return upon it, — the interest relation does not involve the return of the specific money lent, and does involve the reduction of the hire to the dollar-time unit. With this modification, interest is rightly to be defined as the rent of money.

The next chapter will, however, investigate not the interest problem, but the various problems connected with the theory of *money* and *credit* — postponing to the following chapter the discussion of loan capital and its relation to interest. Since money is both the thing loaned and the thing repaid, the right working of a standard of deferred payments, and the significance of the loan and interest contract, must depend upon the existing exchange relations between money and goods, the changes to which the relations are subject, and the influences by which these relations are determined and modified. Thus a general discussion of *money* logically succeeds the analysis of the standard problem and precedes the detailed study of the problem of interest. The next chapter will, therefore, examine: (1) the ultimate and the derivative functions or aspects of money and currency, leading (*a*) to the definition of money and of currency, and (*b*) to the qualities essential in the money commodity or commodities; (2) the fixation of the exchange relations between currency and the various goods between which it serves as intermediate, leading to a discussion of (*a*) banking and the effects of banking credit and of other credit upon the exchange values of gold as medium and of its substitutes, (*b*) the nature of crises and their relation to the exchange ratios of the intermediates in trade — prices, (*c*) depressions and their relation to prices, (*d*) Gresham's Law, leading to the effects

of currency inflation, whether by bimetallism, paper money, or extended credit, (*e*) the Quantity Theory of money, (*f*) bimetallism in general.

This discussion of money will especially emphasize the relations of banking and credit to the volume of circulating medium, and thereby to the volume of the loan fund at any given time — as preparatory to the study of the rates of hire paid for the time use of funds — *interest*.

CHAPTER XVII

MONEY, CREDIT, AND BANKING

Some intermediate conclusions. — It has already been made clear that division of labor is possible in a competitive society only in the degree that exchanging takes place; that exchanging can take place on practicable terms only with the use of a medium of exchange; that stability in the medium of exchange is seriously important only in relations of deferred payment; that relations of deferred payment require the use of a standard; that it is practically unavoidable that this standard be money; that the stability of money for the purpose in hand has reference only to stability in the command of things of serviceability; and that contracts for deferred payments and contracts for the payment of interest have both to do with deferred payments in money.

Some deductions. — It must follow that whether the standard is stable or is fluctuating, and the degree of the fluctuation, depends upon the degree in which there is a general or average change in prices. To say that the price of any commodity is falling is to say that a given quantity of the standard, money, will buy more of that commodity. If money is to remain constant in its control over goods in general, there must be no important change in prices in the large. The degree of this change is the measure of the instability of the medium. It thus comes about that both for the problem of interest and for the problem of deferred payments we are concerned to investigate the influences that bear to establish the price situation in general, and especially the influences that are effective to modify any system of prices which is once established.

Currency is that thing, or those things, specialized to the intermediate function in exchange and generally accepted in that function. Whatever thing has come, legally or conventionally, to be accepted as a medium of exchange is a currency thing. But it is currency only when so used. When used as ornament or as a raw material in industry, gold is not money, currency. When, for example, beads

and ribbons are carried by traders to mid-Africa, these are intermediates to the traders, though generally mere consumption goods to the natives. The goods received by the traders are some of them wanted by the traders as consumption goods; some of them are carried home for sale. The latter are currency for the purposes of the particular case. The function of money is essentially and fundamentally the intermediate function.

The different uses are subdivisions of the intermediate function. — In last analysis, also, all the different uses of money or currency are merely different aspects or emphases of the intermediate function. Deferred payments, as we have seen, are merely deferred payments of the intermediate. So, again, of the standard aspect; whatever is the general intermediate is by that fact the standard. The functions are not two, but one — began together, and have grown together. That two things exchange one against the other imports and implies — or rather *is* — an exchange equality of each to the other. No more than this can the facts ever report — mere ratios of exchange. Different things can, however, be compared as to their respective exchange ratios to some third thing. When practically all exchanges are made through an intermediate, all exchange ratios come to be compared in terms of their exchange relations to that intermediate. Essentially it becomes a commodity of reference. Exchanges excepting through the intermediate rarely occur; and values, as exchange ratios, are actual things. So, to declare the value ratio of cloth to wheat, copper to tea, meat to cotton, is merely to deduce from the actual price relations what these non-monetary exchange relations would be if only they actually were; or it is a computation declaring the different and ultimate barter relations which the use of the intermediate permits.

Doubtless wheat or cattle or cloth might be used as the unit of reference or computation and in this sense be a standard, even though never employed as intermediate. But of how many yards of cloth is any given good the equivalent? If neither actually exchanges against the other, it will be necessary to find something against which, directly or in-

directly, they do exchange. Any standard which does not report actual exchanges reports mere deductions made from actual exchanges; there is somewhere an actual standard or standards on which as mere deduction the particular standard rests.

Clearly, also, the intermediate may be a storehouse of purchasing power. The second half of the barter may be deferred. The intermediate is generalized purchasing power. Delay is one of the privileges which especially the intermediate function carries with it.

So by its very nature the intermediate serves as payment in whatever transaction it is used. This function of payment — liberation, discharge, acquittance — may be a matter either of custom or agreement or of legal enactment. But in any case it is one of the functions of intermediateship, precisely as in every case of deferred payment.

Money defined. — It must be noted, however, that the intermediate function is ordinarily served not solely by minted gold, by gold certificates (government receipts for gold coin deposited), by silver coin and silver certificates, by government notes payable on demand in coin (greenbacks), by bank notes payable by the issuing bank on demand in legal tender, viz. in gold, gold certificates, silver, silver certificates, and greenbacks — but also by checks, drafts, and orders. All these different media the economists term currency; but not all are either technically or popularly called money. All moneys are intermediates, but not all intermediates are money. In truth, pretty much anything may, on occasion, function as intermediate for any clever trader; and in a barter economy there would be, as we have already seen, not one medium of exchange, but an indefinite number of media. What, then, precisely, is *money?*

Clearly redeemability is not the test; nor is the money in which, by custom or by legal requirement, all the others are finally to be redeemed, the sole and only money; though it must be recognized that, so long as this redemption is maintained, the ultimate money is the ultimate standard, the exchange values of it being really reflected and represented by the others. But greenbacks were money in the United States before specie resumption became actual in 1879.

Nor is the promise of a some-time redemption necessary to the money function; the ultimate money might itself be government paper issues without either prospect or promise of redemption other

than that required by the legal tender privilege or the tax-paying power. On some terms, clearly, the legal tender function will circulate a purely fiat money — a money unsupported by any promise and resting on no valuable material basis. If one will pay a lawyer's fee to be defended against a claim, or the costs of an insolvency suit for a discharge from legal obligations, surely one will give something for paper issues controlling this power of legal acquittance. Poor money they may easily be, but money of some sort they certainly are. In a sense, doubtless, all money is credit; the receipt of it as intermediate implies the faith that the receiver can pass it along, that others will take it, that it will retain its value standing till he is ready to offer it anew as purchasing power. He accepts it as a demand against the market. Saving and hoarding, indeed, especially emphasize this credit aspect of the intermediate.

Power of acquittance is the test. — It is the aspect of the intermediate commodity as payment, as means of acquittance, of contractual execution, of redemption — whether established by legislative gift of legal tender power, or by social custom and convention — to which we shall best appeal in our analysis of the different popular and technical variants of the concept of money. These different meanings refer to the differing degrees in which the different media possess this potency of payment — to the breadth of the field over which (*a*) legally, (*b*) actually, this function of acquittance, of execution, is performed. Put in another way, the money of highest grade is that money which has least intermixture of legal or contractual credit — that money which does not rely for its current acceptability upon any claim that it carries with it of payment in some other sort of money.

"**Real**"**money**, then, standard money, the money of ultimate redemption, *is that money — gold coin,* for example — *which has the power of fulfillment and discharge of any and every credit obligation.* Even a contract for the delivery of houses or lands, or for performance of personal service, if not specifically performed according to its terms, transforms itself through court procedure into an obligation to pay money. In strict common law theory, it may indeed be said that one has the right to do anything, subject to the necessity of paying legal tender for it. That, then, is conventionally money for all purposes which is conventionally able to serve as payment for all purposes — to redeem anything. That is legally money for all purposes which has a parallel legal efficiency — gold coin, for example. Irredeemable paper money, also, is legally this, and, as many economists believe, would be also conventionally this. Interpreted, then, from the point of view of this principle, moneys range from the

partial to the complete money function, according to the degree of their efficiency as payment. In what range or relations do they (*a*) legally, (*b*) actually, serve? What obligations do they discharge? Which redeems the other? And which all the others? That medium which both legally and conventionally is weakest in power of payment — private credit and checks against bank balances — is commonly called not money but mere currency. Bank notes, as more objective and impersonal in standing, are stronger in paying power than ordinary credit; but they are still weak in the sense that legally and, upon occasion, actually, they are subject to redemption in moneys of higher rank of paying power. Silver certificates and gold certificates are one grade lower in rank than the coin in which they are respectively redeemed; the relation of warehousing is fundamentally a credit relation. Silver coin and greenbacks are ultimately redeemable in gold coin. Gold bullion is conventionally, in many relations, money of the highest rank. Gold coin is both conventionally and legally of this grade — a medium of acquittance for all purposes.[1]

Money is a relative term. — It appears, then, that whether a given medium is money for the purposes of any particular discussion must depend upon its relation in the case to some other form of medium. Relatively to any medium or to any obligation, that is money which carries the power of payment or of redemption. Credit, the lowest order of medium within the currency classification — currency meaning unspecialized, suspended purchasing power — is the medium of the weakest, or of vanishing, efficiency in redemption. It is, then, mostly an arbitrary matter whether credit be called money for any purpose. Popular usage has not applied the term to it, and technical usage has presumably done well to follow.

One currency may occasion demand for other. — But note again that it is in the very nature of ultimate money, money of the highest rank, that all of the lower grades and forms of circulating media are redeemable in it, and hold a parity of exchange power with it, so far as actual redeemability is maintained. In some degree, therefore, and upon occasion, these lower forms of media furnish a demand for

[1] Walker's and Fisher's definitions of money both imply these differences of degree:

"Any commodity generally acceptable in exchange." — FISHER, *Purchasing Power of Money*, p. 2.

"Money is the medium of exchange. Whatever performs this function, does this work, is money." — WALKER, *Advanced Course*, Sec. 162.

the ultimate money and to this extent rank lower than it in exchange efficiency.

The important qualities. — The money commodity, or the different commodities used as money, must have great purchasing power in small bulk, and yet not so great a power as to be overminute for small transactions. The necessary adaptation of bulk to the magnitude of the transaction is commonly achieved through the use of different commodities side by side as money — gold, silver, nickel, copper, paper. Division and combination of the ultimate money must be possible without loss. All specimens of it must have the same quality, must be durable, must not seriously deteriorate or improve with time, whether by decay, chemical change, growth, or reproduction. The total currency must be so far stable in supply, relatively to the demand for it as an intermediate, as not greatly to fluctuate in its exchange relations with other commodities. Iron would be too bulky, varies greatly in quality, and is subject to rust. Hay is too bulky and is variable in quality and quantity. So with wheat and tobacco. Diamonds are over scarce, variable in quality, and cannot be divided or combined without great loss.

Rate of current increase. — Whether the standard money commodity is likely to be the more or the less stable by having other than money uses is not quite obvious. But it is clearly important that the annual product of the standard commodity be so small in proportion to the existing supply that rapid fluctuations are impossible from the supply side of the case. Wheat or tobacco is mostly consumed in the year of its production, and therefore varies in supply with the year and the time of the year. So also with coal, and measurably so with iron. But gold is rarely consumed in the sense of being destroyed and is commonly not so intermixed with other products or with labor as to put it out of practicable reach for money purposes. In some cases, doubtless, *e.g.*, with gold filagree work, much of the value is due to the manufacturing expense; but still most of the supply of gold from all the past years is the supply of any present year or day. Gold is, therefore, relatively stable on the supply side. An amount of water which poured into a washtub will seriously change the level will not greatly affect the shore line of a lake.

Credit, Currency, and Banking.

The intermediate employed in actual transactions is, in increasing degree, that form of currency called credit, the lowest order of currency, rather than money itself. Checks

and drafts make up a progressively larger share of the circulating medium. The net deposit credits in the national banks in the United States — to say nothing of the other banks — are double the volume of the actual money in the country. And a large share of this actual money is really employed as reserves to support the credit circulation. More than 90 per cent of the larger sorts of transactions are mediated through the use of deposit credit, and probably more than one half of the remaining transactions are similarly effected. Thus the study of banking is essential to any understanding of monetary problems.

The method and extent of credit issue. — Assume that a bank with a cash capital of $100,000 is opening for business in an isolated town and is the only bank in that town. How much can it lend? Ordinarily a bank lends by discounting a customer's note and by giving the customer a deposit credit upon its books for the proceeds of the note. The transaction amounts to the exchange of the banker's promise to pay on demand against the customer's promise to pay at the end of a specific short term — say from one to six months. According to the United States law a rural bank needs keep on hand only 15 per cent of its deposit liabilities. If, now, our bank in question lends $100,000, giving deposit credit for this sum, it has $100,000 of cash on hand against $100,000 of cash liability. Its statement will stand as follows:

Resources		Liabilities	
Cash	$100,000	Capital Stock	$100,000
Notes	100,000	Deposits	100,000
	$200,000		$200,000

Now let it lend another $100,000. With its loans and deposits each standing at $200,000 its reserves are 50 per cent of its demand liability. Only with $666,666 of loans will its reserves have reached the 15 per cent limit:

Resources		Liabilities	
Cash	$100,000	Capital Stock	$100,000
Notes (Loans and Discounts)	666,666	Deposits	666,666
	$766,666		$766,666

Further: Suppose that $100,000 of cash is deposited with the bank from the channels of business; how much more can it lend? $15,000 must be retained as reserve against the new liability; $85,000 is available as reserves against further lending. Based upon these further reserves loans may be granted to the extent of nearly $600,000 more. In fact, only with an expansion of $1,233,333 in loans and in derived deposits — a total deposit of $1,333,333 — has its reserve fallen to the ratio of 15 per cent of its liability.

Resources		Liabilities	
Cash (original)	$100,000	Capital Stock	$100,000
Loans & Discounts	666,666	Deposits	666,666
Cash (new)	85,000 15,000	Deposits (new)	100,000 566,666
L & D (new)	566,666		$1,433,333
	$1,433,333		

The situation summarizes as follows: On its asset side the bank has $200,000 of cash and $1,233,333 of securities (Bills and Notes). Its deposit liabilities amount to $1,333,333. Its cash is $\frac{2}{13.3+}$ of its liability — 15 per cent.

The function of reserves. — If this is what actual banking means, is banking sale? What would happen if all these deposits were immediately called for in cash? True, not all are likely to be called for, but some cash will be demanded. In fact, the borrowers, instead of accepting all of the proceeds of these notes in deposit credit, will in some measure require and receive cash. Precisely so; and so the bank must keep on hand a cash reserve to meet this possibility. For the most part, however, the customers of the bank make payments through checks upon the bank, and these credits are deposited in turn to the credit of other customers. No cash, but only bookkeeping, is required. And if some customers draw out cash, other customers will probably receive it and return it to the bank. A reserve of 15 per cent is enough for the case. There would, indeed, be small gain in banking if against every deposit an equal sum in cash must be held in store by the bank.

Economy of redemption money. — It is thus evident that the employment of $200,000 cash as a banking reserve has made possible the existence of a more than sixfold volume of circulating medium — currency. Against each $1000 of deposit liability there need be only $150 of actual cash. The bank customer, however, thinks of his deposit claim as money, and it really serves him all the purposes of money. The right to have the money when desired is as good as the actual money, is more convenient, and is as readily and as serviceably transferred.

The economy of money through the use of credit substitutes for money extends really further than the foregoing analysis indicates. Under the law, three fifths of the reserves of a rural bank may be on deposit with banks in reserve cities. Thus against $100,000 of deposit liability the rural bank needs hold only $6000 of reserve money. Against the deposit of the remaining $9000, the reserve bank is required in turn to hold a reserve of only 25 per cent — $2250. And of this required $2250, one half may be represented by deposits in central reserve cities, *e.g.*, New York, Chicago, and St. Louis. Against the $1125 deposited with it the central reserve bank is required to hold only 25 per cent of reserves — $281.25. Thus at the outside limit of credit extension, $100,000 of deposit currency may be supported by only $7406.25 of reserves in money $\left(6000 + \frac{1}{2}\left(\frac{9000}{4}\right) + \left(\frac{1125}{4}\right)\right)$, one dollar of reserves upholding $13 of currency.

It is, of course, not true that the banks ordinarily allow their reserves to run as low as the legal limit, or make the utmost possible use of the privilege of counting claims against one another as legal reserves. Nor is it accurately true that all forms of money are of equal efficiency in the support of credit. Not all forms of money, but only those of the higher levels in the money scale, are allowed to be counted as legal reserves. We have already noted that some forms of money make demands upon other forms for redemption, or are limited in exchange power to the exchange power of the forms in which redemption is to be made. The total exchange efficiency of the money of a country is, then, not accurately to be computed on the assumption that all moneys are equally efficient for all purposes

— that some are not in varying degree burdens upon the money functions of the others.

Banking viewed in detail and in the aggregate. — And one further modification is called for. The analysis so far made, while valid for any isolated bank, or for the banking system regarded as an aggregate, is not precisely accurate for the affairs of any one competing bank among other banks. When the check drawn by the borrowing depositor may be deposited in other banks and collected by them against the lending bank, its granting of credits rapidly draws down its reserves to swell the reserves of its competitors. $100,000 of new reserves may not mean to it an increase of lending power of more than, say, $125,000. For banks in the aggregate, however, this increase of reserves brings its full several-fold increase of lending power, provided that all the reserve efficiency is utilized in whatever bank it rests. As the lending by each bank is depleting its reserves, the lending which other banks are doing is reënforcing these reserves. The aggregate possible extension of credit is not changed.

What banks actually do and lend. — It follows from the foregoing analysis that, in the main, banks do not lend their deposits, but rather, by their own extensions of credit, create the deposits; that these deposits are funds which the deposit-creditors of the bank can lend if they will, and that many men into whose hands these deposits fall through transfer are certain to use them as funds to be lent. In fact, also, even when the deposits in the bank are not derived from the lending activity of the bank, but are really funds deposited from outside sources, these funds are commonly used by the bank as a reserve basis on which loans are extended rather than as funds which are themselves loaned out by the bank. Banks are, in truth, mostly intermediaries between debtors and creditors — but not in the sense of borrowing funds from one class of customers in order to lend them to another class, but rather in the sense of creating for their borrowing customers funds which may be used by these borrowers as present purchasing power. The borrower becomes indebted to the bank in order that for his own purposes he may use the promise of the bank as the equivalent of cash to himself. In the form of a deposit liability the bank becomes a debtor to whomever the borrower shall nominate.

The fact that the borrower pays interest while the bank undertakes a noninterest-bearing obligation, or pays relatively low interest, explains in the main the gains attending the business of commercial banking.

Deposits and solvency. — It is, therefore, a sheer blunder to infer that a bank is rich or strong because of its great total of deposits, or to regard deposits in banking institutions as making part of the aggregate wealth of the community. Instead, the deposits indicate for a bank the extent of its operations, and indicate for a community the extent to which the banks, under the guise of noninterest-bearing obligations, have assumed the debts of business men, on terms of these business men becoming debtors — and interest-paying debtors — to the banks. The solvency of the bank is in its portfolio of securities. Its deposits are not its assets, but its liabilities. These liabilities it has mostly created for the use of its borrowers. The further it may safely go in assuming liabilities, the larger its holdings of borrowers' notes may be, and the more interest or discount charges it may collect. Essentially, therefore, the business of a bank is a form of suretyship — the guaranteeing of its borrowers' solvency — an underwriting of the credit of its customers. The bank transfers its customers' prospective future paying power into present funds. It is for this reason that the contract takes the form of a money loan and the premium the guise of an interest payment.

Bank loans related to currency and loan funds. — And note now that it is precisely because the business of a bank is to furnish to its borrower a present purchasing power for his own use that the business of banking becomes the source of the larger part of the circulating medium of society. In their service to their customers the banks create currency; and in creating currency they create loan funds which, in the hands of the holders of them, are available like other currency for any purpose, either lending or other.

The sources of currency supply. — It is, then, clear that the larger part of the circulating medium of society is not money; that not all of the money that there is is bullion money; and that not even all of the bullion money need be ultimate money — redemption money of the highest rank. The sources of currency in society are various — some of it

bullion, with a cost of production limit upon its supply, some of it government paper, substantially free of cost, some of it banking credit with certain peculiar and appropriate costs attending its issue.

Currency and its cost of production. — It is obvious that the actual limitations upon the supply of exchange media must be made clear if we are to understand the influences which are fundamental to the exchange values of the currency unit. Only, indeed, by this investigation of the sources of the supply, and of the terms on which each different factor of the supply is available, are we in position to understand the influences which impose upon bidders for money a certain level of sacrifice in obtaining it.

What, then, are the limitations upon the supply of credit currency supplied by the banks? In other words, what are the banking costs in the granting of demand deposit rights to customers? Evidently limitations there must be, and limitations in the nature of costs, else the competitive activity of the banks would indefinitely increase the supply of currency, and any would-be purchaser of goods or payor of debts or projector of an enterprise could have the time use of purchasing power gratis; no limit would exist to the rise in prices which must attend this increase in the circulating medium.

What are these limitations? (1) Each bank must conform the volume of its lending, and therewith its issue of circulating credit, to the fundamental requirement that it be always able to make good its agreement to discharge its deposit liabilities on demand. To maintain reserves involves expense. Especially may it be expensive if they have been allowed to get low; securities may have to be marketed at a sacrifice, or good customers pressed for payment at inconvenient times. In periods of general pressure or panic, other banks are not likely to be in a position to lend their own reserve funds or to consent to create deposit credit in aid of still other suffering banks. Not rarely the bank of England, in the attempt to attract reserve funds, advances bank notes or deposit credit to importers of gold, without imposing the

customary interest charge for the covering of the delays of the mint. In at least one case, in 1890, it borrowed reserves from the Bank of France. In 1907 the United States Treasury made especially large money deposits with the national banks of New York to help eke out the needed reserves. Meantime the interior banks were compelled to pay to exporting merchants generous premiums for exchange bills upon Europe, through which, despite the high interest rates ruling in European markets, these banks were able to import 107 millions of gold for their own reserve requirements. In fact, the banking business involves the hazard not merely that some of the debtors of the bank may become insolvent, but also the general and overhead hazard attaching to its underwriting service that it may itself in time of stress become unable to meet its obligations. Its liabilities must not be allowed to get seriously out of ratio to its cash resources.

The protection of reserves. — In point of fact also the efforts of the various different banks to maintain each its own reserve place a limit on the extent to which any one bank can extend its activity in the expansion of loans and of the derivative liabilities. Just as a relatively liberal granting of credit by one bank must tend to transfer its reserves to other banks, so a relatively great extension of credit in one center or in one country must tend to transfer the reserves, *e.g.*, gold, to other centers or countries. Even were it true that a local credit expansion has no effect upon local prices and thereby upon the currents of trade, some transfers of reserves would still take place, and would impose a policy of restriction in credit accommodations. But we shall later see that the influence is actually exerted by both methods.

(2) **Another cost in bank-made currency.** — The loan rates of the bank must also provide a fund to cover its costs of administration — salaries, clerk hire, rents, and the like. Where transactions run in large units the ratio of expense to the volume of business may be low. This is in part the explanation for the low rates of discount in the great financial centers compared with the rates outside. Credit currency has its cost of production rate as truly as any other service upon the market.

The Demand for Exchange Media.

Each man's need for currency expresses, on the one hand, the advantage which he finds in exchange and, on the other hand, the almost prohibitive difficulties of barter. Every transaction of barter promises to each of the traders a net advantage — a differential between the utility of the thing parted with and of the thing received. The use of an intermediate of exchange divides the barter transaction into two steps, two separate transactions. Grain for money and money for shoes sum up finally into grain for shoes. The advantages of the completed barter are achieved through two trades.

Traders' surpluses in price exchanges. — It is, then, evident that the total advantage attendant upon the completed barter divides itself into two separate advantages attending upon the two trades that are involved in the use of an intermediate. Every seller of wheat for money achieves a seller's surplus; he would, if necessary, have sold for less. When he finally decides to invest his money in shoes, he achieves in turn a buyer's surplus; he would, if necessary, have paid a higher price. It is doubtless true that money, *as money*, has no other utility than that of an intermediate. But this utility as intermediate it clearly has. Through it and dependent upon it accrue all the advantages which attend the completed barter.

The allocation of surpluses. — But how shall this advantage be apportioned between the two steps by which it is attained? Each step is necessary. Does it therefore follow that the advantage divides equally? The reservation price, the minimum selling price of the seller, say of a cow, is that amount of money which expended, say for a wagon, will command a utility equal to that of the cow. So viewed it would appear that whatever extra money is realized upon the sale of the cow is a surplus attached to this sale. But this leaves no surplus to be ascribed to the further transaction of buying the wagon. Yet the purchase of the wagon is not necessarily conditioned on selling the cow. What is the minimum price at which the wagon would be purchased? Money being good merely for the purchasing of things, the

sacrifice in buying the wagon — once the money is in hand — is clearly the foregoing of some alternative commodity that the money would buy. The process of expending the money offers therefore its separate aspect of gain, equally with the process of trading for it.

Interrelation of surpluses. — The difficulty can be resolved only by an accurate appreciation of the nature of trading surpluses in general. In point of fact any one of several processes necessary to the achieving of an end may exhaust all of the advantages which attach to that end. One who is planning to expend $5000 in a house would pay, say, twice as much for any essential item in the structure as he actually has to pay. But it does not follow that in the completed house there is a surplus of $5000 above what he has to pay for it in the aggregate. Each of these separate maximum payments is conditioned on the fact that the other maximum payments are not actually required. Not all of these maxima are possible at once. So, again, if there is a $1000 advantage in prospect out of the making of a particular journey, one might, if necessary, pay not far from $1000 to overcome any one special impediment to it — to be taken on time to the station, or to be granted an exceptionally speedy transport, or to be allowed to stop at a station not upon the train schedule. But not all of these maxima could apply at once. So what one will at the outside pay for food or shelter or clothing is a maximum which is valid solely by virtue of the fact that other things can be had at prices far below the maxmium which each taken separately might command.

The truth is that the seller's surplus in the marketing of the cow can be taken to be the entire differential between the cow and the wagon only upon the assumption that no differential is computed to attach to the buying of the wagon. The aggregate of advantage is easily arrived at for the two trades. But since both are essential to the advantage, it may be equally well attached to either trade to the exclusion of the other.

Sellers' surpluses relatively great. — In point of fact, however, one does not usually know precisely what he is going to do with the receipts from the goods that he sells, but only that he is going to want other things. In view of these prospective and indefinite wants he decides what lowest price to accept and then gets all more that he can. Here is his seller's money surplus. When later he decides what he shall buy, a further buyer's surplus appears as a balance between what he does pay and what he would, if necessary,

pay — the advantage which one purchase offers above any alternative purchase.

It is now to be recognized that in general the transaction of sale affords the larger price differential — which is only another way of saying that sellers are commonly more anxious to sell than buyers are to buy. Sellers importune buyers rather than buyers sellers, and do the most of the advertising. "It is always the seller who bribes, never the buyer." [1] It is easier to buy at a bargain than to sell at a bargain. The strategic position of the buyer is the stronger. The explanation for this generally recognized, but little understood, truth is in the fact that the seller has only one choice — that to sell or to retain — while the buyer is in possession of a commodity offering a wide variety of applications. The producer is specialized to his particular trade and practically must take what he can get for his products. But money is an option of use, and is an especially desirable form of wealth precisely because it possesses this special utility of option. Thus, while the differentials between different options are not great, the differentials between the good for sale and the good commanding the option are relatively marked.

Inelastic demand for media. — There is, then, something peculiar and especially imperative in the demand for money. Upon it as intermediate depend all the advantages of trade — all the significance to the individual and to society of the assignment of tasks to special ability and opportunity. But the chief pressure for it and the larger advantages attaching to it are achieved in the process of its acquirement.

The General Movement of Prices.

The exchange relations between currency, the intermediate commodity, and the other commodities, goods, against which it exchanges can evidently be explained only by explaining the terms on which possessors of goods are disposed to sacrifice them in order to obtain money, and the possessors of currency to sacrifice it in order to obtain goods. We are therefore set to examine the fixation of the terms of actual exchanges and to investigate the forces which determine the actual making of these exchanges in all their difference and variety. Why is so much wheat offered by the sellers against so much currency, and

[1] *Industrial Democracy*, Sidney and Alice Webb, Vol. II, p. 676.

so much currency offered by the buyers against so much wheat? And why, again, shoes for currency, clothes for currency, furniture for currency, lands for currency? And we are all the while to hold firmly in mind that the great pressure for exchanges is on the side of the seller of the goods for money rather than on the side of the sellers of currency for goods, precisely because the greater part of the advantages of exchange are reaped on the side of getting the money rather than on the side of expending it.

Values of gold with enlarging use as medium. — In a primitive society, lacking any conventional medium of exchange, or in any society in the very beginnings of that specialization of employment which stamps one commodity out of many as especially the intermediate commodity, or in a society in which gold, for example, were in the beginnings of acquiring the monetary emphasis, the exchange relations of gold bullion to other goods would report the fact that no possessor of gold could find the opportunity of any further marketings of it on terms of getting something for it of a marginal utility to him greater than the marginal utility of his gold — or, to put the same fact in another way, that no possessor of other things could increase his offerings of these for gold on terms of obtaining a larger marginal utility through gold than the marginal utility of what he had in hand. Any forces modifying, for either the possessor of gold or the possessor of other goods, these relative marginal utilities would disturb the exchange relations between gold and other goods. A relatively increasing supply of gold — say through its relatively falling costs — would lower its exchange powers. So any influence effective to increase the utility of gold to the individual holders, its relative utility, would tend to increase its different exchange powers. And note that precisely such a force to increase its relative marginal utilities is the fact that it is coming to center upon itself the function of mediating exchanges; forthwith it becomes increasingly advantageous to the possessors of other goods to obtain gold for them through exchange.

The sole fact that gold were entering upon the intermediate

function would tend to enhance its utility, or, more accurately, would itself constitute an added utility, and would induce the further production of it at higher levels of cost, were it so obtainable. Each man with goods to be marketed would part with his goods on such new terms as were necessary in order to get possession of gold — the medium through which he could get those things for which the gold would finally be expended. Recall again that the general situation of prices reports merely the quantities of other things respectively which the possessors of these other things will part with in order to get gold.

Relation of commodity uses to use as medium. — It is evident also that the utility of gold for other than intermediate uses, say for industry or ornament, would have something to say for the exchange relations which it would hold when used as intermediate, precisely as the intermediate use would affect the marginal utilities of gold in its merely commodity uses relatively to other things. It might indeed be true that the supply of gold were so limited that this need for exchange purposes should so far raise its exchange ratios to other goods as to retire all the demands for gold for noncurrency purposes — excepting to the degree that the demand for ornament and ostentation were itself stimulated by the very fact of its rising exchange ratios.

Monetary theory distinctive. — Money is doubtless a commodity; but by the nature of its monetary function it is in certain very important respects a peculiar commodity; there is in the demand for an exchange medium something that is entirely distinctive of this demand. In one sense, indeed, (*a*) there is no limit to the demand, while in another sense (*b*) there is no elasticity in the demand.

(*a*) No matter what the volume of money, gold or other, the exchanging will be mediated by this volume. Taking the amount of exchanging to be done as a constant, any larger supply of media will be absorbed in caring for this constant volume of exchanges. There is no limit to the increasing supply that may be employed. The adjustment of the old demand to the new supply implies merely that the exchange

power of each unit of the medium must be less. There is in this sense an unlimited demand. On the other hand, (*b*) the exchanging must be done, no matter how scant is the medium. If the volume of need does not change and the supply of media is smaller, there is more for each unit to do, and this more must be done at no matter how great a readjustment in the exchange relations between money and goods. In this sense the demand is absolutely inelastic. The aggregate purchasing power of all the money units is therefore an unchanged purchasing power, so long as the volume of exchanging to be cared for is an unchanged volume. Neither the aggregate product in society nor the amount of exchanging required by this product is dependent upon the volume of exchange media. There is no reason why any buyer or seller should forego trading because of the general price situation, if only there is no prospective change in prices so marked and so sudden as to disturb his decision. The need for a medium of exchange in a competitive society depends (1) upon the volume of products, and (2) upon the degree of specialization of production. Money is the commodity through which as intermediate these ultimate barter relations are, in the absence of substitutes, worked out. Sellers sell goods for money with which to buy goods. So all goods to be exchanged are demands for money, and money is in turn a demand for goods. The demand for a medium of exchange at any level of general prices is therefore variable in the sense solely that the volume of trading changes. In general, this volume is variable only (1) by changes in the aggregate of products, or (2) by changes in the degree of specialization in production. Neither of these changes is monetary in origin.

The fact that the demand for a medium of exchange is practically inflexible and is mostly independent of influences connected with the volume of media finds its explanation, as we have seen, in the trading surpluses hid in every transaction of barter. The money received will buy for the seller that which is of greater utility to him than the thing parted with. Thus all the inertia and all the momentum of our industrial organization are expressed in the demand for media. When the volume of exchange media is insufficient for the needs of

exchange unless on terms of lower prices, these buyers' and sellers' — producers' and consumers' — surpluses are forces adequate to push the money values up; that is, prices down. If the supply of media is large, there is still the same volume of exchanges, neither greater nor less. Thus, the extent and the intensity of the need for a medium being given, prices in general must always accommodate themselves to the volume of exchanges to be mediated; and this process of accommodation must take place as an alteration in the value relations which the medium assumes to the different commodities exchanged through it. These conclusions follow necessarily from the practically inflexible and inelastic nature of the need. Only on terms of suspended exchanges — of social disorganization and reorganization — is the demand for an intermediate to be retired. The issue is whether the commercial and industrial organization of society shall adapt itself to the volume of media, or whether by changes in prices the volume of media shall adapt itself to the demand. None of these changes in price is adequate to retire any of the demand for a medium, unless, indeed, the changes are so rapid and so marked as, taking place between the receipt of the medium and its outlay, to modify in appreciable degree the traders' surpluses. The level of general prices, therefore, is unimportant to the trader. If what he sells changes in price, this does not matter so long as what he buys correspondingly changes. The real and essential relations of goods to goods are finally in no wise complicated by the situation of prices in general or by the volume of media. So elastic is the demand for media that indefinite increases in its volume may be absorbed through a general rise of prices. So inelastic — in the other sense — is the demand, that there is no upper limit to the values of money — the fall in general prices — that an increase in exchanges or a diminution in the supply of media may impose.

Changes in media and changes in prices. — But is it true that a changed volume of media must affect all prices equally? Other things being equal, such must be the case after all transitional adjustments have been completed. The increase in the supply of media is an increase which applies equally to all the goods that are to be exchanged through it. It is true that the increase may not in the first instance present itself in this proportional way. If the mining camps have more gold, their demand will first express itself as a change in the ratios of gold offered against the

goods which mining camps consume. The Klondike or Australia will in turn be offering more favorable money terms for the things that are imported. These waves of influence constantly widen; the process of leveling up will not cease till it is complete. Precisely as money tends to flow away from the centers of low prices and into the centers of higher prices, till an equality of prices is reached — barring the special influences of transportation charges and restrictions of trade — so more purchasing power tends to be offered for goods that are still relatively cheap and to be diverted from the commodities that are relatively dear.

Prices affect prices. — It follows, therefore, that no commodity can change in price without forthwith initiating the process of change in other prices. Whenever it is true, and so far as it is true, that a change in the supply of media is not in equal degree and in the first instance a change in the currency demand for all commodities, it comes finally to be so. It was shown in an earlier chapter that the money demand for any good is to be explained only upon the assumption of an established situation of prices for other goods; whether one shall pay a specific sum of media for any specific thing depends upon what the media will buy of other things. Marginality in purchasing is the point of indifference between competing applications of purchasing power. No one can decide in what direction to apply his money, his purchasing power, unless as the expression of a choice between its different applications. Nor can any seller decide upon what prices he must have for his goods excepting in view of what he can buy with the medium that he is to get. Unavoidably, therefore, prices move up or down together in response to a change in the supply of media.

Paper money affects prices. — The analysis thus far made has necessarily implied that the issue of government paper as money or of bank funds as money — both circulating side by side with gold and actually interchangeable with gold as the ultimate money — must absorb a part of the demand for a medium of exchange, and must affect prices exactly as would an equivalent increase in the supply of

gold, excepting (1) that by the resulting lowering of the exchange ratios of gold the gold itself would be somewhat less rapidly produced at the mines, and (2) that the new issues of paper money would themselves bear in turn as a demand upon gold — these new issues requiring in some degree the use of gold as redemption money or as reserve money.

Supply of gold affects the marginal utilities of it. — Returning, however, for a moment, to the simple conditions of our original assumption, that of the sole use of gold as money in a primitive community: As the gold becomes more plenty — as, for example, through larger supplies from the mines as its costs of production are diminishing — its relative marginal utilities to different individuals for commodity purposes are falling; thus the buyers of it, the sellers of goods, are compelled to give up smaller volumes of the various goods in order to get it.

Applying now the principle to the actual problem: The cost of production of the currency commodity — so far as the supply is conditioned upon cost of production — is related to currency values precisely as to the values of other goods — through the effect upon the supply. But when the total supply of any good is very great relatively to the output of any year — which is necessarily the case with money, only a small portion of the continually offering product disappearing through consumption — cost of production must work slowly and tardily as an influence to modify the exchange relations of that good. The long-time equilibrium of prices under stable conditions is, indeed, in large part the point of adjustment between the cost of production of gold and the market demand for it either for money or for commodity uses. But since the conditions of demand are unstable, both on the side of the products seeking exchange through gold and on the side of the quantity of other media, the point of stable equilibrium is always in process of being approximated, but is never reached.

Banks, supply of media, values of media. — But now assume that banks exist and that through them the opportunity is open to individuals to obtain — by paying the banks

for the issue of it — credit currency equally serviceable with gold in the buying of goods. Instead, that is, of giving up goods for the medium, the bank customer obtains this medium upon terms of making promises to the bank and of paying it a discount — or interest or underwriting — rate. How much of this new medium will be provided? So much as the borrowers will pay the bank for issuing, as equated against the rising terms at which the banks, in view of the increasing cost of issue to them, are disposed to issue.

Security offered : rates offered. — The amount of currency which the bank will consent to furnish to the borrowers will in part depend upon the security which the different customers can offer, and in part also upon the rates which they will consent to pay. The customer may have property which he can offer as collateral, by pledge or by mortgage — property which he could sell were he so disposed, but which, rather than sell, he would prefer to use as security. Or he may be able to pledge to the bank property or income which, more or less securely, he has the prospect of getting later. Or the bank, without requiring a specific pledge or the conditional promise of some surety or indorser, may lend upon a general faith in the customer's paying power later to accrue. Many men, for example, borrow upon the prospect, and sometimes upon the pledge, of later salary receipts, or upon the expectation of a harvest to be reaped in the fall, or upon the goods which will be manufactured and ready for the market when the promised time of payment arrives, or upon the cattle that are being fed for beef. A debt secured by character is as good as any other, if only it be as secure. In point of fact, the amount of funds which a borrower can secure from a bank is commonly not limited to the net property or wealth of the borrower. Borrowing is always essentially a promise of payment out of future paying power, in return for which promise the banker creates an immediate current purchasing power in terms of deposit credit. The net resources of the customer, "what he is worth," are to the purpose only as one item of evidence as to what he will in the future be able to do — only as one of the bases on which future control of purchasing power may

be relied upon from him. Most commercial loans are indeed loans upon the expectation that the borrower will have future receipts and are secured finally by the prospective future marketable product. The bank holds claims against the production that is to be. Borrowing to obtain present purchasing power is much more largely for purposes of future production than of present consumption. Thus the expected selling price not only motivates the borrowing of the entrepreneur, but, in the larger part, fixes the limit to which the lender is disposed to go in the extension of credit. The borrower's resources are a guaranty fund, a margin, a reserve, upon his operations. The activities of commercial banking are something far more extensive than the coining of present wealth into present purchasing power.

Supply of credit responds to rates offered. — Thus the intending buyer — either of a consumption good or of anything else that requires funds for its control or absorbs funds in its hire — labor, land, raw materials, advertising — finds currency at his disposal, if only he is willing and able to offer against the present funds, the currency, either present goods for immediate sale or a satisfactory promise to return to a lender future goods or future currency. Through the mechanism of lending, therefore, expected future goods and future incomes function in varying volume as present currency. At any given time the volume of currency offered by any particular bidder for any particular good, and the exchange relations established thereby between the goods and currency, depend in part upon what present goods the intending purchaser offers for currency as his demand for currency, in part upon what currency he can borrow and the terms at which he can borrow, through pledging his future paying power to the bank as the basis on which it advances to him a present paying power.

Bank funds affect exchange ratios of media. — Not only, then, does the activity of the bank place its customers in the position to offer currency, purchasing power, against goods, but this purchasing power becomes also, in the hands of any earlier or later holder of it, a part of the currency in general circulation — brings about a larger volume of

intermediates of exchange, and as it moves along affects the exchange relations between goods and money, currency. Prices in general are nothing but the summing up into an average of all these different prices of commodities as they are separately determined.

It is not, however, true that these separate determinations are arrived at independently of the total volume of media in circulation or independently of one another. Prices move together, simply because purchasing power, as an option of use in making purchases, can be used for buying one particular thing only as the outcome of a choice between what it will buy of this one thing compared to what it will buy of something else. Low prices on the alternative goods direct purchasing from the particular good to those other goods; so rising prices on the particular good tend to redistribute purchasing power toward the alternative goods.

Gresham's Law: International trade.

And not only do prices in any one country move together, but prices the world over tend to move together — allowance being made for transportation charges and for restrictions of trade, *e.g.*, by tariff laws. If, somehow, the prices of any one good in one country come to be higher than the prices in other countries, exports of this good are restricted and imports stimulated. Domestic producers prefer to sell at home; foreign producers tend to seek this better market. These effects are still more strongly marked where the domestic situation is one which has tended to push up all prices. It is evident also that, merely through the mechanism of prices, any restriction upon the importation of goods from abroad must also finally restrict exportation. If imports are prevented in offset of exports, money must make good the international balance. Prices therefore rise in the country of expanding currency supply, and fall in the countries from which money is drawn. Forthwith there sets in the disposition of the domestic producer to sell at home and of the foreign customer to buy elsewhere. The protectionist needs to recognize that to prohibit imports is ultimately to prohibit exports.

The principle of what is known as *Gresham's Law*, "Bad money drives out good," is essentially similar.

Any commodity, gold or other, falls in its exchange values as it becomes more plenty, whether by lower cost of production or by other influences. More must sell cheaper in order to market all. Thus, less and less insistent demands come to absorb a part of it; old demands reach larger satisfaction; new demands are uncovered. Likewise when two commodities are adapted to the same or to similar purposes, a change in the supply of either, or in the demand for either, has much the same effect upon the exchange relations of the other as would follow from a change in the supply of that other or in the demand for it.

Expansions by silver or paper or credit. — Thus, coinage of silver to be circulated side by side with gold and as substitute for it, or the issue of paper money, or the expansion of credit circulation must, as an increase in the supply of circulating medium, lower the exchange values of the money unit. This fall in the exchange powers of money, this rise in prices, this weakening in the money hold upon the money medium, releases in some measure that part of the circulating medium which is the object of the stronger outside demands. Essentially, therefore, expansion by cheaper money, or by paper or credit substitutes, does not differ from expansion through an increased supply of the original and dearer material — excepting that, in the case of an addition of money of a cheaper material, all the outflow is confined to the dearer money, the cheaper continuing in the money function and tending more and more to the exclusive performance of that function as the dearer money flows out.

Any rise in prices, therefore, whether general or local, not only reduces the purchasing powers of the money unit, but, also, with the outflow of the one metal used or of the dearer of the different metals used, lowers equally the values of that metal in its commodity use and in its money use.

Local movements of prices. — Likewise any local rise in general prices, whether due to a local money expansion, or to credit extension, or to any other cause, stimulates,

as we have seen, an outflow of the money metal abroad; the bullion tends to flow to the most favorable market for it. Precisely as in domestic movements any inflation or expansion makes a better market for some forms of money outside of the commodity use than in it, so, in international trade, the local expansion makes some portions of the currency more desirable for buying abroad than for buying at home. The currents of trade are disturbed.

Danger in currency experiments. — Bearing these facts in mind, the futility of any local effort toward an increased currency is evident. So, also, with the attempt to retain a market for goods abroad, unless on terms of permitting imports of foreign goods. So, again, any national excess in the issue of paper money must mean in some degree the loss of the international medium from the domestic circulation. Likewise *national* bimetallism must involve a rise in domestic prices, a progressive export of the international medium, a currency tending constantly to contain a smaller share of international medium and a larger share of the substitute, and, almost unavoidably in the final result, monometallism on the basis of the cheaper metal. (See p. 321.)

Commercial Crises.

Circulating and other credit. — Not all credit devices serve as economics in the use of money. Where items in open account offset each other, the economy is manifest. Where credit circulates, the economy is manifest. But the mere granting of credit, awaiting a later settlement, does not lessen, in the outcome, the demand for money, but merely postpones it. Credit must be used by transfer as payment or as *quid-pro-quo* before it works as substitute for money. Nevertheless, this noncurrency element in credit is none the less credit, and in the making up of disaster is as important as any other.

Pre-panic conditions. — The period preceding a financial crisis is commonly a period of seemingly great prosperity. There is a popular impression that such prosperity is a mere seeming, and that panic is in the nature of a necessary collapse. It would be going too far to claim that no bubbles are formed in the course of business expansion, or that these

bubbles are not sources of financial danger; but, speaking generally, the popular impression is a mistaken one. The years preceding a panic constitute a period of great industrial activity and of great productiveness. Wage earners have been well employed; transportation and merchandising have been in smooth and successful operation. At the close of the period it will be found that the wage-earning classes have rarely been as well housed, as well clothed, or as well fed. They are exceptionally well supplied with the smaller conveniences and comforts of life. Measured by their own standard, the laborers are prosperous in pleasant homes and large personal belongings. In the aggregate, they represent a large total of material wealth. The farms were never under better cultivation, the herds larger, the buildings more substantial or in better repair, the homes better furnished. Likewise of the manufacturer and the merchant; never were there larger stocks or more warehouses bursting with merchandise. Never were factories daily pouring forth more goods. Turning to general conditions, it will be found that these prosperous years have rebuilt cities in brick, interlaced states and even continents with railroads, dotted the prairies with farmhouses, beautified them with fields of grain, and covered them with herds. The period has been one of widespread plenty, of remarkable industrial activity and efficiency, of boundless energy and hope. It is strange, it is even impossible, that extensive building operations should, in themselves, result in houseless exposure; that overflowing granaries and fattening herds should foster hunger, or that warehouses of cloth should be the sufficient cause of nakedness. It is doubtless true that these meshes of railroads, these cities of brick and iron, these immense factories and fattening herds are largely the outcome of reckless hope and borrowed capital; yet it all counts in the world as wealth; it is here. That the capital is borrowed chips nothing from this fact.

Where the dangers lie. — The elements of danger are not to be found in the industrial situation, which was possibly never so prosperous in thorough efficiency and organization. The difficulty is financial.

We have seen that the volume of exchanges is the basis of the demand for currency; to double the volume of currency without increasing the number of exchanges, is ultimately to double prices. To halve the currency is to lower prices approximately in the same ratio. These propositions are unquestionable; they hardly reach the dignity of principles — they are mere mathematics. Yet, strangely enough, as applied to the facts of industry they are seemingly untrue. Prices almost uniformly rise with increasing activity in business, and fall with failing business. This is apparently to say that the values of currency fall with an increased demand, and rise with a failure of demand.

Why prices have risen rather than fallen. — The explanation is found in the fact that, with expanding business, the currency also expands, and, commonly, in a degree more than proportionate to the demand for it. This increase takes place not ordinarily in the money element, but in the element of credit. Reviving credit always characterizes reviving business. Under the existing system, credit furnishes for currency the only element of ready adaptability. It furnishes, for ordinary conditions, the guaranty of steady market prices. It avoids an enormous application of human energies to the production of commodity currency. Without it, great expanding business operations would carry with them their own restriction in falling prices and vanishing profits.

The débacle explained. — But these advantages are purchased at the risk of enormous dangers. The commercial crisis marks the period when money takes on abnormal scarcity and abnormal values from the fact that substitutes for money — credit currency — contract in volume. The very height of the credit fabric measures the disaster of its fall. It is at the full tide of prosperity that the danger is greatest. If, then, for any reason, whether of extravagance at some point, or of overproduction in some industries, or of failure of harvests in some districts, or of overspeculation, or even of business prosperity carried to the point of overstringency in the loan market, there sets in a contraction of credit, trouble begins. The debtor can pay only by calling

in turn upon his debtor. The pressure for payment increases in almost geometrical progression. Not only does credit largely disappear from circulation, but the burden of liquidating existing indebtedness is thrown upon the legal tender and the unquestioned elements of the currency. Panic-stricken marketings of commodities, and panic-stricken or speculative withdrawals of money from the channels of business further complicate the situation. Endless ruin and disaster follow; prices tumble; this is panic, when even the rich seem poor, when business is stagnant, exchanges are restricted, laborers are unemployed and in want. Immediately preceding it were the headlong rush and exultant activity of prosperity, — when all men were hard at work, though doubtless overconfident, and possibly overventuresome. And now follows the destruction of wealth. In the course of ample credit, things had arranged themselves in the hands of those who knew best how to use them. Now ensues an enforced redistribution. In the outcome one man finds himself with two houses, and can use but one; or with two horses, and needs but one; and with endless steam engines and trumpery and stocks in trade of which he wants nothing. He can only let the property grow old or rot or rust. The wheels of the factory stand still; industry has dropped its tools; and all this, not because there was too little wealth or too much, but because what there was, was badly arranged to withstand a flurry in credit.

The case for credit. — It is clear enough that panic is an ebb in credit, and that in proportion as the intermixture of credit in currency is large, is the disaster great. Whatever may be the ameliorations possible, the gravity of the case is not to be questioned. Here is the most noticeably weak point in the modern competitive system. Anything which shall offer a reasonable hope of displacing credit from its enormous development in modern business can hardly be other than good fortune. The money of ultimate redemption is too small for the credit fabric built upon it. It is like a cone resting on its apex. This delicate and unstable equilibrium is a condition fraught with constant danger.

Doubtless so long as credit works, it affords desirable

economies in the use of bullion currency and, in some measure, steadies prices. England succeeds in managing a much larger per capita volume of business than does France, and with a much lower per capita supply of bullion currency. But periodically England suffers acutely from the commercial crisis, while France is relatively exempt. The losses probably outweigh the gains.

Devices for amelioration. — That which most naturally suggests itself as a remedy, is to enlarge the currency basis, — to declare that more money of ultimate redemption is needed; therefore start the printing presses or coin silver. But remember that it is the shape of the pyramid, and not the size of it, which is matter of concern. Unless there is found to be some tendency in silver coinage, or in any other form of expansion, to lessen the volume of credit relatively to money, the inflation argument fails.

There is no such tendency. Silver expansion, or any other expansion, would be followed by a rise in prices proportionate to the expansion. The degree in which credit circulates depends upon the methods of business and the organization of industry, and not upon the kind of money. So long as manufacturers find it advantageous to borrow capital, so long as wholesalers take credit from retailers, and all deposit their funds in banks and pay through checks and bookkeeping, so long must the intermixture of credit remain an element of danger. In truth, the very bulkiness of silver would, in itself, tend somewhat to increase the inducements to deposit methods.

Nor is there any great hope that these credit methods will cease because of their dangers. The advantages and conveniences to the individual business man are too pronounced. Here, again, individual interests are not parallel with the general interest. No one business man could afford to stop unless all should stop, and each would gain by violating the rule intended for all. The remedy, if any is possible, lies in the discovery of a currency effectively flexible in time of need.

Wiser organization of banking. — The foregoing discussion does not, however, imply that the banks, which are the ordinary sources of credit currency, can do nothing as they are now organized against the breaking out of a panic, to intervene to prevent its further development when once it is started, or to mitigate its severity when once it is seri-

ously under way. Nor is it true that, with better organization, the banks might not do even better than to arrest or to ameliorate. How, in fact, should panics be handled by the banks?

The policy of more credit. — The panic cannot be controlled, once it has started, by any policy of restriction of credit, but only by generous extension. The creditors are hurrying their debtors mostly because of the danger of being themselves hurried, or because of the danger that delay may mean that some other creditor may by his promptitude make himself the sole creditor paid or the sole creditor obtaining adequate security. Were really solvent debtors sure of obtaining credit in case of serious pressure, there would be few creditors to press them.

In fact, also, if the creditors were sure of credit for themselves in case of need, there would be the less occasion for pushing the debtors. And if these creditors, in turn, were not in danger of being pushed by other creditors, themselves straitened in credit and themselves fearful of the possible failure of the debtor to obtain credit under serious need, this last occasion of credit pressure would be mostly removed. The banks stimulate a call upon themselves for credit by X, Y, and Z, when the banks refuse credit to the men in whose power it is to hurry X, Y, and Z. And if the creditors of X, Y, and Z make demands upon them, and the banks refuse to give credit to X, Y, and Z, these men are driven, in their turn, to place pressure upon still other debtors. The hurry grows with the restriction of credit, and the further restriction of credit adds to the hurry. The process is a geometrical progression. And immediately that no one can get credit to pay with, there is a frightened scramble to enforce payment in money, to get money to pay with, to hoard money against possible necessities. The attempt of the banks to hold fast to their reserves is the very force which is prompting the taking of them away; depositors under pressure are withdrawing funds to meet claims in other centers, or, suspicious of the continued ability of the bank to pay upon demand, or suspicious of the ultimate solvency of the bank, are calling for cash to be hoarded. The fact that it is not nec-

essary that a stringency have already arisen in order to bring about the panic stringency, but that only the menace of stringency is necessary, is well illustrated in the London market. The Bank of England has no authority to issue more than a limited fund of notes, otherwise than as mere warehouse receipts for deposited gold; and the legal limit of its uncovered issues is always full. If, then, panic develops, reserves are falling, and the situation becoming acute, the government is likely between two days to promise the later legalization of such illegal issues of notes as the Bank may find necessary. The announcement next morning of this authority and of the Bank's disposition to use it is, not rarely, enough to stem the rising waves of disaster. The terror is allayed. As soon as it is clear that all who need credit and deserve it can get it, no one is in a hurry to borrow for possible emergencies, or to push his debtor, or to hurry to pay off his creditor. Business returns to its normal pace and movement. The Bank need not have made even the slightest use of its privilege.

Here in America, however, the reserve limit fixed by law deprives the banks in times of need of their only power of service. Reserves are mostly waste money till this time of need, and then they are forbidden their only proper function. They are the more rapidly drawn out by the depositors as the granting of credit is the longer refused, and as the credit conditions become less and less adequate for business requirements. And each dollar of withdrawn reserve means the calling and the canceling of several dollars of credit substitutes.

Organized *versus* disorganized banking. — Most experienced bankers would promptly take issue upon the assertion that, for $1000 of increase in reserve funds, from $4000 to $7000 of loan extension is possible. These bankers would argue that out of a $1000 loan the checking operations of the borrower will carry $800 of the borrowed funds into other banks — that only something like $1250 of increased lending is possible through an inflow of $1000 of reserves.

From the point of view of the isolated bank, this criticism is undoubtedly well taken. Only in case the bank in question were

the only bank in a community, and in the degree that the community were isolated in business relations from other communities, would it be true that the credit granted by the bank which received the reserves could be very greatly extended. But it is still true that the same total amount of extension would be possible, only that this would be possible not, in the larger part, by the bank first obtaining the reserves, but mostly by other banks. The granting of credit by the one bank means the transfer of reserves to other banks. Each bank, as it, in turn, lends to its customers, is losing reserves to other banks, but is, in turn, gaining reserves at the expense of the other banks — if at the same time the banking activity of these other banks is maintained. Here, as elsewhere, the economic process appears one way as an aggregate and another way as viewed in its competitive and separatist aspects.

Commonly, however, in the banking field, the two lines of analysis converge in their conclusions. The competitive analysis, as the actual analysis, is merely somewhat the more detailed and difficult. But there is no essential need of this doctrinal unity anywhere; nor always do the facts of banking support it. In truth, it often happens that, so far as any one bank is lending, it is losing its reserves to other banks that are not lending. And it is not rarely true that each particular bank is deterred from lending by the possibility that other banks are not going to lend: or, again, it may be true that any particular bank is actually prohibited from lending by the fact that the other banks have stopped lending.

Expansions and contractions of banking credit. — The fact is that as banks by extending their credit accommodations create the situation in which panic is possible, so, by a restriction of credit, they may actually bring on panic, or by their mutual suspicion and their lack of a harmonious and coördinated policy, may seriously aggravate a panic which has already got under way without their fault.

The responsibility. — Where, at any given time, the responsibility for panic ultimately rests, may be difficult of determination. But it is a practical certainty that, in a system of separate and uncoördinated banking enterprises, the banks will themselves make immeasurably more serious whatever serious thing may happen. If banking is to furnish for ordinary times the bulk of the circulating medium, banking must continue to furnish it for all times. Otherwise there must be recurrent disaster. The general situation of

prices which goes with the credit circulation of banks cannot be maintained in the absence of this circulation. There must be no credit or there must be permanent credit.

Double-counting of reserves. — The difficulty is not precisely in the fact that some banks purport to hold in large part — but actually do not hold — the reserves of other banks; that under our system of redepositing reserves, more than three fourths of the reserves, computed as somewhere else, are really not where they are supposed to be, but are, instead, still somewhere else — where, in turn, they really are not, — and that, therefore, in times of stress the banks themselves are the most serious sources of pressure upon one another, — that the banks are not only themselves among the very depositors whose calls are so disastrous, but are, of all the depositors, the ones likely to be first in their calls, — although all this is serious enough; the ultimate difficulty is that the very process by which all the banks at once are trying to strengthen their reserves is an altogether impossible process — a paradox — a death-blow at the very fundamental principle of banking. Any general attempt to convert banking paper or deposit credit into gold must promptly issue in a lamentable collapse of the whole credit machinery. The last people to make this attempt should be the bankers themselves. If other interests attempt it, the bankers' duty is to intervene to save the situation. The attempt must in any case fail, but all sorts of calamity must attend this effort at the impossible. When the banks themselves join in the scramble, the last hope of supporting the credit fabric has vanished.

There are, then, two serious defects in the organization of American banking, (1) the double-counting of reserves, (2) the many-reserve system, — an evil seemingly on the point of receiving its long-deferred remedy.

The double-counting of reserves is clearly dangerous. But the pressure by one bank upon another is merely made a greater pressure, an aggravated difficulty, through this duplication. It is not the less important, however, to understand how the system, under its present organization, actually

works; it will thereby become so much the clearer how the system of independent and separate reserves must inevitably work, even though all the duplications were avoided.

So long as fair weather continues, it does not much matter where the reserves are, or even whether there are any. A system including both the principle of separate reserves and of reduplicated reserves may, for so long as it works at all, appear to offer all the strength and flexibility that a system of conjoined and centralized reserves could offer. But recurrently the present system does not work. The ultimate reserves — what, in last analysis, there are of them — are in large part held in New York. When trouble sets in, the 25,000 banks in the country set themselves to tear down this central reserve — each one trying to weather the storm by the help of what little it can snatch from the general emergency fund. Under this manner of treatment the fund promptly disappears.

The ultimate evil. — And yet, as has been already indicated, the system of reduplication of reserves serves merely to aggravate a much more serious and, indeed, a fundamental evil. We have seen that when credit is being granted freely by all the banks, the accommodations made by each bank work out to distribute the aggregate reserve with something like proportionality among all the different banks. As one bank, by its creation of deposit liability, is drawing down its reserves, other banks are, as the direct result, reënforcing their own reserves. Similar discounting activities on the part of other banks are, in turn, making good the reserve withdrawals from the first bank. In practical effect, then, in times of easy and normal credit, the reserves are really combined. Each bank can shift its loans to other banks. By contracting its loans, it can always reëstablish the desired ratio of safety between its reserves and its demand liabilities.

When contraction comes. — But this method of safety is evidently open only on the condition that the banking community in general is not making a like attempt at contraction. If the movement becomes general, the only safety for each individual bank is in its refusal to hazard its reserves either

by the granting of new credit or by the extending of the old. An insensate scramble for one another's reserves sets in. That which was stringency develops into panic. The different banks in the aggregate system are now working at cross purposes. The fund which was held as reserve for any emergency threatening the general stability of the system, and for the maintenance of the general credit circulation, now functions merely as hard-held funds which are not available for use at such points of weakness as develop. A still more severe and more serious pressure comes to be exerted as more loans are called to reënforce reserves. This process, in turn, cancels more and more deposits. The system is working as an automatic multiplier of the initial pressure. Those independent banks which achieve safety in the rout, achieve it only on terms of the sacrifice of many of their customers.

Effects of restriction. — The aggregate result is that the circulating medium, which it is the accepted duty and function of the banks to furnish, has in large part disappeared. The business world must get along as best it may under this radical restriction of credit and of credit media of exchange. With the attempts of debtors to pay their notes through marketing their possessions, prices tend to fall. The more frantic the attempt at marketing, the more rapid and the more marked the resulting fall. Especially severe and heavy is the marketing of those securities deposited as collateral with the banks. With the forcing of these collaterals upon the market there goes a still further depression in the market prices of them. And with the falling prices, the banks are calling for wider margins of collateral or for the immediate payment of the secured obligations. *At the theoretical limit of the process* the typical bank will have reversed its original process of note extension and will, if its frantic attempts have availed, have returned to its first morning's calm, with $100,000 of cash in hand, with no notes in its portfolio, and no borrowers' deposits as liability, but with a farcically safe and conservative ratio of reserve to demand liabilities. Counting also the money which has accumulated in its vaults as the result of that ordinary and current deposit unrelated to the loan activities of the bank, the bank will show not

merely an extraordinarily large reserve relatively to its liability, but extraordinarily large reserves as an absolute volume.

Illustrations of the process just analyzed are readily found: For the fourteen years following specie resumption in the United States, and preceding the panic of 1893, the ratio of net cash to demand liability for the aggregate national banks of the United States had run approximately at 20 per cent, with the absolute volume of cash reaching its maximum of 400 millions in 1892, while the net liability was at a minimum of 1900 millions during the year 1892 and in the early winter of 1893. Six months later, after the disastrous summer of 1893, the net demand liability had fallen to 1600 millions and the cash holdings had, in early 1894, risen to 480 millions — a point never before reached and not later reached till 1899. This increase of reserves was obviously not merely an increase from 20 per cent to 29 per cent of the demand liability, but was also an absolute increase of 80 millions in the holdings of cash. A parallel, though not an equally dramatic, illustration of the same tendency could be drawn from the experiences of 1884 and 1907.

Where is the fault? — No criticism is here intended against the banks in the carrying on of their separate and independent functions, or against the managers of the banks, but only against the actual organization of the banking system. The bankers are merely the servants of the system in which they work; they have no choice. But the fact still stands that the leading and characteristic feature of the ordinary panic is the abdication by the banks of their function of maintaining credit.

The sequence of contraction. — Taking it to be true that the commercial crisis is a phenomenon of the contraction of credit, it nevertheless remains to inquire as to the sense in which this is true. Is it either primarily or exclusively a contraction of bank credit, or rather a contraction of credit generally? Or is it merely a contraction in some other specific kind or level of credit? May it not be a process of restriction confined to what may be termed voluntary credit, as over against a remaining volume of credit which is refusing to contract and which is even expanding?

It appears, indeed, to be in need of recognition that, although the *acute stage of crisis* is purely a matter of credit

contraction, it does not follow — and it is not true — that the aggregate volume of credit is diminishing. The process of restriction is proceeding only in certain departments of credit or upon certain credit levels, while credit is elsewhere manifesting precisely the contrary tendency. Side by side with the diminution of bank credit there is taking place an enforced and inevitable expansion of credit relations between producers and consumers, producers and middlemen, and between middlemen and consumers.

At this nonbanking level of credit must be sought, in fact, the explanation for the more serious of the ultimate difficulties characteristic of the crisis phenomenon. So far, indeed, as crisis confines itself to a mere contraction of bank credit, so far, even, as its effects extend no further than a general reappraisal of goods in terms of gold — a readjustment of prices — nothing is taking place of essential significance to the interests of society as a whole. It is only as the financial strain somehow translates itself into an interference with the processes of production and consumption that the real and essential and ultimate harm is disclosed.

What, then, is the method of this translation, the rationale of its working? Why are manufacturers closing their mills and discharging employees?

The ultimate social injury from crises has sometimes been interpreted purely in terms of disturbed production reacting upon consumption, sometimes also in terms of reduced consumption reacting to limit production.

Restricted consumption. — Space must fail to do immediate justice to this second view — a view containing much truth, and truth of the greatest significance. (See pp. 300–6.) Some part of the difficulty does really lie in the fact that, scared or depressed by the purely financial commotion, consumers are refraining from consuming. In this aspect of the problem, nothing appears to be the trouble excepting the sheer indisposition to consume, a temporary and extreme economy, an overmarked preference for postponed consumption as against present consumption. Acting under similar influences, retailers are also doubtless manifesting a similar

psychology; they are allowing their stocks to run low; temporarily they are adopting the policy of living from hand to mouth. And as the mere restatement of this fact, orders are ceasing to come to the wholesaler, and employment is becoming scant at the sources of production.

Doubtless the problem is extremely complex; a full treatment of it must allow for the bearing of such influences as first express themselves in a reduced consumption and only so react upon production. But the concern of the immediate analysis is solely with the influences first impinging upon production, and only secondarily affecting consumption.

Restricted production. — How, then, does the panic work out to tie up production? In some small part, doubtless, by uncovering insolvencies not due to the panic, but only disclosed by it; in some part, also, the panic causes insolvencies through bringing about a fall in the prices of securities or of stocks of goods, or, possibly, through necessitating an imperative call for the immediate liquidation of credit relations that cannot be liquidated immediately.

Production and credit. — But in the main the "slowing up of business," the restriction of production, is not a phenomenon of insolvency; in the main, also, even where it is an insolvency phenomenon, it is merely as another effect of the very causal influences which it is the present purpose to analyze. Restriction of production is mostly due to a disastrous redistribution in society of the function — or the burden — of supplying credit. For, as has already been noted, the immediate or early effect of crisis is not to diminish credit. Credit contraction is really a matter of very slow accomplishment; *the stringency period is merely a period of the redistribution of the function of carrying credit.*

In the early days of November, 1907, two or three weeks after the crisis of that year had declared itself, a small manufacturing wholesaler in Chicago reported to the present writer that collections had in two weeks shrunk from about $1000 to $500 a day, while raw materials and other outlays were running at about $650 per day. Shipments were still maintaining their usual mark of $1500. But two weeks later the report was to the effect that collections had fallen to about $250,

sales to about $600, and that customers were sending in their notes and asking time. The Chicago banks, however, were refusing to discount these notes. In essentials, the case is typical.

What does it all mean as seen from the point of view of the entrepreneur and of the productive process? Simply that there is as yet taking place no contraction of credit, but merely that the manufacturer or jobber — either of whom is for the most part an intermediary in production — is having to carry the credit; the banks have abdicated their function of credit issue. Whether this is necessarily done does not concern the present analysis — it is done. What shall the wholesaler do — press his customers? But this is bad business in the long computation, and, besides, is likely to be ineffective. Refuse them further goods? But this is inexpedient as long as the customers are actually responsible. The customer also finds himself in a precisely similar situation with regard to his own trade; he has to wait on his customers. *On this level of business activity* credit is successfully resisting contraction and is effectively pressing for expansion.

But on the basis of having to carry his customers — not merely on accrued accounts, but for further shipments — the wholesaler or manufacturer must shortly meet the necessity of curtailing or abandoning production. And note that all this must hold true, even though the banks do not also move toward cutting down the line of credit usually granted. In any case, the pressure upon the wholesaler or the manufacturer for credit is an increasing pressure from his customers. Credit *on this level* is temporarily expanding. But this is an impossible process if attempt be made to carry it appreciably far, concurrently with the refusal of the banks to grant an increasing accommodation. Producing and distributing are therefore subjected to paralysis.

Responsibility and credit. — Nor does it greatly matter, for the purpose, how unquestionably solvent the manufacturer or the jobber may be, or how great claim he may have to credit by title of financial strength. The difficulty is not that his net resources are not adequate for all purposes of protection to the bank by way of indorsement and guaranty.

The banks refuse the credit; the manufacturer and jobber have imposed upon them this function. But manufacturing and mercantile businesses are at the farthest possible remove from the ability to stand as ultimate purveyors of credit. Banks are properly organized to do the thing, because they have the machinery for the making of one man's deferred-payment promise into immediate purchasing power for the promisee. This is, in fact, the leading significance of the deposit-credit system. But the middlemen in production or in commerce have no devices or adjustments appropriate to the problem. If credit organizations cease to perform their functions and attempt to shoulder the burden off upon other lines of business, these others must in their turn cease to perform their appropriate functions, simply because they cannot perform both their own functions and those of the banks.

Control of panic. — The foregoing is, however, merely another way of enforcing the established doctrine that, in times of especial credit pressure, it is the business of the banks to be especially liberal of credit. If, then, the hard and fast reserve limitation interferes, it should forthwith be repealed; if to fulfill their responsibilities the banks must somehow get together for joint action, they should be authorized — or compelled — to undertake the necessary organization; if the custom of depositing reserves with other banks works out, in fair weather, as a stimulus to speculative activity in reserve centers, and, in bad weather, results in an automatic cancellation of reserve resources, this double or triple counting of reserves should be promptly outlawed. By one device or another the banks should be held to the responsibilities of their function — the supplying at all times, and especially in times of stress, of all that credit in guarantee of which any applicant is able to offer the adequate security and for which he stands ready to pay the ruling rates of interest.

Post-Panic Depression.

Rising prices and dividends. — Rising prices upon consumption goods during the period of easy and expanding credit must be attended by rising prices upon the equipment

goods and upon the raw materials and the labor entering into the consumable products. But precisely because these higher prices for the intermediate goods are derived from the higher prices of their products, the rise in the price of the intermediate good follows more or less belatedly after the rise in the consumption goods. The years of easy and expanding credit are, therefore, years of wide margins of gain to enterprise — years when the employers obtain some indemnity for the long drag of the preceding depression. The period is, therefore, a time of high dividends upon corporate stocks, and therewith of advancing market prices for these stocks. And as the prices of the stocks go higher with the higher dividends, more liberal loans can be made against the stocks as collateral. Thus, the larger credits granted and the larger deposit liabilities of the banks make possible still higher general prices. And these higher prices make possible, in turn, still higher levels of dividends and of derived market prices on the stocks.[1]

[1] Starting with the lowest quotations of railroad stocks in 1896, and selecting the highest market records of each later year in succession, the following quotations are offered in illustration of the movement under analysis :

	Atch.	St. Paul	Ill. Cent.	Mo. Pac.	N.Y. Cent.	U. P.	C.& N.W.
1896	8	59	84	15	80	3	85
1897	17	102	110	40	115	27	132
1898	19	120	115	46	124	44	143
1899	24	136	122	52	144	51	166
1900	48	148	133	49	145	81	172
1901	91	146	154	124	174	133	215
1902	95	198	173	125	168	113	271
1903	89	183	151	115	156	104	224
1904	89	177	159	111	145	117	214
1905	93	187	183	110	168	151	249
1906	110	199	184	106	156	195	240
1907	108	157	172	92	134	183	205
1908	101	152	149	67	126	184	185
1909	125	165	162	77	147	219	198
1910	124	158	147	73	128	204	182
1911	116	133	147	63	115	192	150
1912	112	114	141	47	121	176	145

The further process. — And not merely this: but the same cumulative interaction between the extension of credit and the rising prices of goods and securities manifests itself in a still more direct way. We have already noted that borrowing is largely done in order to finance production, and that the expected selling price of the product not only motivates the disposition of the entrepreneur to borrow, but fixes the limit to which the lender is disposed to go in the extension of credit. Thus falling prices discourage both borrowers and lenders. So, rising prices increase both the ability to borrow and the disposition of banks to lend. The loans granted, with the deposit credits derivative from them, again raise the prices, and so on, seemingly without end.

Then narrowing margins. — But there comes an end; and the influences which bring it are of two sorts: (1) The banks experience increasing difficulty in maintaining reserves adequate to their expanding liability. With higher prices in general, requirements for pocket money and for the cash transactions of everyday business are increasing. Not only, then, are the reserves of the banks falling relatively to the liabilities, but these reserves are likely even to be falling absolutely. (2) With the restricted power of the banks to expand their credit circulation, there goes also a less rapid expansion in the demand for credit. Not only are the prices of products rising less rapidly, or even are remaining stationary, but the prices of raw materials, and especially the wages of labor, are approaching nearer to a level corresponding to the prices of the finished products. Thus, the margins of gain are narrowing, and dividends upon stocks are becoming less generous. With these falling dividends, the market prices of the securities are also falling and their availability as collateral for credit is shrinking. (Observe the general trend in the prices of railroad stocks since 1905–1906. Note, p. 296.)

The foregoing discussion is to our immediate purpose as throwing light on the movements of prices in times of financial reverse. What is there in the long drag which

follows the crisis to paralyze the processes of production? For ultimately it is not the credit, or the margins, or the prices which are of concern to the general well-being, but only the volume of products for consumption.

We have already seen that the first effect of the abdication by the banks of their function of credit issue is not primarily to occasion a restriction of the aggregate of business credit, but only a restriction on the banking level; there is really an expansion, enforced but real, on the wholesale and distributing level. But the limits to which this sort of expansion can go are rigid. If the manufacturers and wholesalers can continue to sell only through constant extensions of credit, selling must shortly cease. So with the retailer in his relation to his customers. And the customers, in turn, if they must buy for cash, are restricted in their buying. It is thus evident that while the producers' ability to maintain production is suffering, the demand for goods is also suffering. The aggregate product of society is diminishing. But it is not quite clear upon which side, the supply or the demand, the causation is in the main to be located. All that can safely be said is that the denial of credit by credit institutions — the shifting of the burden to shoulders inapt to bear it — is interfering both with production and with consumption. The net result is a smaller total of product in society. The crisis itself has some very prompt effects upon production.

But a longer-time view discloses another and a still stronger influence making for a restriction of production. We enter upon the problem of depressions.

The unequal fall in prices. — The business of the entrepreneur is to make profits. He has no concern with social welfare. He faces the following problem: In the fall of prices after a panic not all commodities fall with equal rapidity. Goods from foreign sources, for example, may nearly or quite hold their old level of prices. Other products are perhaps produced under conditions more or less approaching monopoly; others again may be well sustained in price, through speculative holdings by the producers or through restrictions of product. The entrepreneur must produce in view of market prices. Prices are his master. If his productive outlays are too high, he must withdraw from business. There is, however, for most employers one resource and one

only — that of reducing wages. A small reduction may perhaps be sufficient. But here is precisely the kernel of the difficulty. Even were raw materials for all industries falling regularly and equally, the entrepreneur would still be compelled by lower prices of product to reduce the wages paid. As a practical fact, this is a difficult matter. Laborers resist angrily and persistently. They do not understand the necessity of the reduction — they believe that they have merely to stand firm. To prevent a strike or a long continuance of strained relations, the employer often finds it not less profitable, and much more comfortable, to close his shop. In times of depression margins are scant enough at the best.

Inertia is a fact which must be reckoned with. Wages rise slowly and, when fall is inevitable, fall slowly and with painful struggle. Public opinion concurs with difficulties in business to impel the factory owner to quit the contest. Competition among wage seekers does not protect him. If the industry requires skilled labor, he cannot readily re-man his factory — the unemployed, even, are loath to present themselves for the vacant places. Ostracism is visited upon them if they do, and they are even prevented by force.

The frictions of readjustment. — Were it possible for prices to fall evenly all along the line, the depression following upon panic would be less important and of shorter duration. But (1) as long as indebtedness does not fall as measured in money units, there is tremendous resistance — in many cases a struggle for very financial existence — against sale and liquidation at the ruling level of prices. Even were this difficulty avoided, as will be shown to be possible, there would still remain (2) the difficulty of accurately adjusting wage payments to market prices. Capital, labor, and employer must coöperate in production. If from their employer laborers insist upon all, or more than all, of the product, production must suffer. The marginal principle applies here in an important manner. Those employers hardest pushed by the demands of employees, or those least able or least disposed to continue production on narrow margins, close the doors of their factories.

This analysis points to large advantages in the commodity

standard of payments, especially as applied to attempts to fix upon a basis of agreement between employers and employees.

Post-panic depression and under-consumption. — But will the same lines of explanation serve also for the industrial situation in the post-panic period, prolonged as it is in some cases to the better part of a decade? The processes and the causes immediately following upon the crisis time are fairly clear. But depressions are mostly unknown land.

The main issue, however, in the depression problem is easily formulated: Is the depression to be interpreted in terms (1) of disturbed production reacting upon consumption, or rather (2) of disturbed consumption reacting upon production?

That production has been seriously thrown out of gear by the crisis requires no further emphasis; but that things are so wearily slow in recovering is our present problem. Crises are one thing, depressions another. After the crisis there follows a long period of idle and surplus resources and equipment. Prices are low. Yet the bankers have plenty of money for loan and plenty of reserves for the extension of credit accommodations. Credit is, indeed, abnormally easy for any one whose security is acceptable, the only difficulty being that the few who can get the credit do not want it, and that the few who want it cannot get it. Interest rates are low upon such loans as are made.

Easy credit, falling prices, diminishing consumption. — Why, with all this plenitude of money, and with these ample reserves for credit, are prices also so low? Is the explanation in overproduction? But the economists deny that overproduction is a possibility. Is it discouraged production lasting over from the panic — insolvent businesses, plants either under foreclosure or closed for lack of prospects of gain? Why, with so many competitors crippled, is there this bad outlook for such of the producers as have weathered the storm? Wages surely have fallen low enough; the wage earners are frantic in their search for employment, are starving, will work for anything they can get. Raw materials were never so cheap. Why do not things move?

Can it really be true that there is no market for the products? The rural laborer is wanting work and the city dweller is wanting food, and both are wanting clothes. And still there is no work. And in face of all this dire want, there are still people to talk of overproduction or of underconsumption. How can there be overproduction? or underconsumption — which looks like an evasive and timid way of saying the same thing? How can goods in general be in oversupply so long as the desires of men are still unsatisfied — are, indeed, farther than ever from satisfaction?

Can there be overproduction? — The classical argument against the possibility of general overproduction — of a *general glut* — appears on the face of it to be conclusive. Supply and demand are merely different ways of regarding the total of products: each man's products are a demand for other men's products. To increase the general supply of goods is, then, to increase the general demand for goods. True, these goods are exchanging one against another through money as the intermediate. But no matter; suppose that barter were the only exchange method: what could it mean to say that the supply of goods was greater than the demand for them? The more of each thing, the more of other things to exchange against it. True, some goods may be relatively overproduced; but is it not clear that not all the goods can be relatively overproduced? So runs the argument.

Money complicates the problem, — But, after all, the fact that there is a money intermediate has something to do with the problem. What must happen if the possessors of goods really do not want to barter these for other goods, but only to get hold of money and, for the time being, to stop there? What if for a while the intermediate is receiving a marked and extraordinary emphasis — is sought for substantively, rather than as intermediate — is held as provision against the pressure of creditors, or for the purpose of later speculative purchases, or for some other end remote enough so that the money has lost temporarily its function of serving as intermediate in the exchange of present products against other present products?

Money as option of delay. — It is strange that the use of money as a " storehouse of value " should have escaped attention in this regard. The use of money as current intermediate shades off by insensible gradations into the use as deferred intermediate and into the use as intermediate in deferred payments. The classical argument is inadequate precisely because the intermediate commodity is present with its possibility of postponed outlay, and because all the phenomena of the deferred payment relation are present also. Goods have, in truth, to be conceived in another aspect than this solely of present goods against present goods; the case sometimes presents itself as one of present goods against future goods; and for this purpose moneys and credits, as the form of *quid-pro-quo* into which existing goods are seeking exchange, may at one time be receiving a much more marked emphasis than at another time. When the exaggerated desirability of postponed consumption obtains, the demand for ordinary commodities slackens. The problem then transforms itself into this — how shall men, in the average, increase their production and sale of goods consistently with a diminished buying and consuming of goods? And not only is it true that in time of depression present goods are, in large part, likely to be offered only against money rather than against other goods; but it is true, also, on the money side, that money itself is disappearing as a demand for existing present goods. Goods are offering against present money, while money is offering only against promises to pay in later goods or in later money with which presumably to command later goods. In large part, then, present goods are failing to exchange against present goods. The offers of present goods are not for present goods, and the offers of present money are not offers for present goods.

Exaggerated emphasis upon the future. — Somewhere, then, in this neglected field may well be sought the solution of our problem. It is possible, surely, that present goods should fail to find a market, so far as these goods are merely a demand for money or for deferred purchasing power. There is implied no lack of human need or desire, but merely a situation in which foreseen future needs are outranking in the

present estimate the actual present needs. In a situation of this sort, present money, or well-secured promises of future money, may easily acquire an extraordinary command over present consumable goods. The traders willing to offer the present money, or able to offer the adequately secured promises of future payment, are not numerous. Falling prices necessarily result.

A general fall in prices may not stimulate consumption. — Nor is it at all clear that these falling prices will avail to market the normal supply of goods or to terminate the glut on any other terms than of enforcing a greatly restricted production. If prices are falling — the exchange power of money over present goods rising — so also is rising its putative future purchasing power. Rather is it true that for so long as the current psychological attitude prevails, there can be an adequate market for only those commodities ministering to the more primary of human needs.

Under consumption actual. — The fact is that, in time of depression, the volume of the exchange medium offering against goods is a grievously restricted volume. The disposition toward oversaving prevails. True, there is money enough; no one has been tempted to destroy any part of the existing supply. But money which is in the cellar or in bank vaults is not circulating money. It is retired, withdrawn. For all current purposes, it might as well never have been mined, or have been sunk in the sea. Were it really functioning as bank reserves, it might be supporting severalfold its volume of circulating credit. But in no effective sense is it a part of reserves. It is altogether idle.

When will it emerge from its hiding? Much of it awaits in speculative watchfulness the time when things shall have "touched bottom," and will emerge at such time as other hoards appear ready also to emerge: when the rest are ready, all will be ready. Other of this retired purchasing power will some day come to realize that prices must finally turn toward rise — that the buying power of money over consumption goods has already reached its maximum, and that to invest in deferred payments is to submit to great and purposeless loss. Still other of the currency in hiding is awaiting

the return of a more genial temper toward the consumption of wealth — for a reinstatement of a standard of living commensurate with the productive powers at human disposal.

It is, then, to be recognized that the period of depression is a period of a lowered standard of living, of a general conviction of being poor, of an exaggerated care for the future, of the starving of present needs in oversolicitude for future requirements — a restriction of present consumption in the hope of ministering to a larger consumption in the future.

But, taken in the average, this hope is doomed to disappointment. It is — when so widely held — sheer error and delusion. There is no one to sell to, no one to lend to. For how shall every one extend his production beyond his consumption, and sell his surplus to some one else?

Savings and investment. — But why may not investment solve the problem? There is always a market for savings in prosperous years; why should there not be a market now? But prosperous years are a period of an extraordinarily high per capita productiveness of goods. All productive energies have been fully employed, enterprise functioning at the extreme of pressure. The demonstration of this is convincingly found in the prevailingly high level of consumption; with every wage earner there goes the full dinner pail. Among the laborers there takes place a high average consumption of clothing, of minor comforts and of luxuries. Not only this, but the social production has been sufficiently large to permit, over and above immediate necessities, the acquisition of a great supply of durable consumption goods — more and better personal belongings, books, pictures, household furnishings. Meanwhile, also, in the more distinctly capitalistic field, the high social productiveness has made possible, through saving, the construction of miles and miles of new dwellings and of business blocks, new streets with grading, paving, and sewers, and generally the extension of all sorts of public improvement and the development of all sorts of quasi-public utilities.

And how was it all possible? Doubtless the ultimate explanation must lie in the surpassing volume of production;

but within this, and made possible by it, was the enormous volume of saving.

Saving connotes lending. — But how, in the existing economic organization, does this saving take place? Usually, as we have seen, through the restricted consumption of some individuals or classes of society, and the transfer of this saved purchasing power, this loan fund, to others, mostly or largely for the purposes of the creation of new equipment for production. It is, then, mainly the need of new railroads, new factories, new appliances, and new equipment, that has furnished the market for new savings and the possibility that these new savings should express themselves in an increasing volume of productive equipment. But when the market will no longer absorb the product of the existing factories, there is no occasion to build more factories or to borrow for more equipment. When the railroads cannot employ their present rolling stock, they will not borrow to construct more. When the dividends are suffering, new lines of road will not be built. The market for savings has disappeared. Business men and corporations are not extending their operations. There are already more goods than can be sold, more houses than can be rented, more public improvements than the taxpayers are willing to pay taxes for. It is, then, evident that if savings will not capitalize into forms of intermediate social wealth, there can be no market outlet for the savings, unless it be in consumption loans, that is, in class indebtedness, dubiously secured, or in government wastes and government wars.

The nature of depressions. — We are, then, within reach of our conclusions: with the restriction of the disposition to consume, there is neither the market to absorb the productive output of society, nor even the market to employ the existing productive equipment. Capitalization cannot take place. Savings, in any considerable volume, become an impossibility because of no market for them; there is nothing for the case but a sharp restriction of the productive output of society. A temporary lowering in the general standard of living takes place. Meanwhile some tendency is manifest toward the displacement of labor through competing surplus-capital

equipment, to the extent, that is, that the existing supplies of instrumental goods are adapted to serve, in relation to labor, rather as substitutionary than as complementary goods. In large part, however, it is true that the existing capital goods are rather complementary than substitutionary in their technological relation to labor, and that thereby labor receives employment so far as the capital itself is able to find employment.

Saving, Luxury, Charity, Waste.

But this analysis brings us in presence of one of the most perplexing of economic problems; how far is saving good in society anyway? Is there not truth in the popular notion that the receivers of income must for the general welfare spend — that money must be kept in circulation?

There can surely be no question that savings may go into directions of private capitalization that are injurious to society in the aggregate. The easy assumption that private capital means always social service, is silly optimism. If the result is merely one more monopoly, or another Celery Compound factory, or more gambling dens, or a merger of brothels, or a " slush fund " for police demoralization, or an investment in favoring legislation — society could clearly have got on better without the saving.

But the fact of unsocial capitalization does not present the serious theoretical problem: Is all saving well, even upon the assumption that all of it be saving which adds to the aggregate social equipment?

It is unquestionably possible for the individual to make the mistake of dying too rich; he might better have lived more richly. There is small wisdom in the hoarding of supplies of nuts until one has no teeth with which to crack them. Youth is the time when desires are keen and goods are rich in service. Nor is wise individual provision against old-age penury certain to be limited at a wise social aggregate of saving. No doubt there are dangers of untimely death against which individual saving needs provide, as there are also dangers of death too long delayed, against which provision must be accumulated.

Note, however, that the individual who endeavors to provide against the needs of old age — of living, say, beyond seventy years — must recognize the possibility of twenty-seven years of further living. But were 100 men to pool their issues in this regard, achieving the benefit of the principle of the general average, there would

be need of provision for only seven years. Nor can any one man know that he is or is not to reach the age of seventy. Acting independently, he must make full provision for the full possibility of life. But out of 100 men thirty-five years of age less than one half will reach the age of seventy. A pooling of issues here would further reduce the volume of saving by more than 50 per cent.

If, then, individual saving is to be justified in its social aspects, it must be by the fact that savings are directed to the increasing of social equipment, and that there are room and need for the expanding supply.

How great an increase in equipment can a given total of labor absorb? The substitution of instrumental goods for labor is, as we have seen, a limited process. But how far can improvement in quality and efficiency and expensiveness of equipment go? No one knows. The degree is mostly a question of the development of industrial technique. After the uncivilized man has provided himself with one or two boats and a fair supply of poles and lines, he will do ill to increase his supply in these directions. So, for the more skilled workman, there is a limit to the number of shovels, plows, reapers, or looms that he can adequately use or tend. So also the point of capital saturation is, in any society, in considerable measure a question of the standard of comfort, and of the development of varied directions of consumption; but in any given situation there is a limit. Again, while in a collectivist society, hazards of criminal predation would be inconsiderable, other hazards of loss with passing time would need to be considered — dangers of fire, and of water, and of wind, and of decay. In an environment earthshaking, like that of Japan, the same rational preference as with the Japanese would exist for one-storied unsubstantial architecture. And, finally, the law of diminishing utility with expanding supply would have its application.

But assuming, as under present conditions we probably safely may, that there is still room in general for the indefinite addition of equipment goods, and assuming, also, — as we less confidently may, — that the saving in question will be invested in social equipment, we have still to seek the fundamental principle in the case.

Further productive equipment is worth while only as a means for increased production. And further production is worth while only as a means to increased consumption. A larger productiveness in order to be able to save more, in order then to have a still larger product out of which in turn to save still more, is a circuity of

nonsense. Somewhen and somewhere there must arrive an increase in consumption, else the saving and the capitalization are purposeless, fruitless, and senseless. The point at which saving should stop is the point at which the present product, in view of present need, rationally outranks future product for future need.

The expansion of product is, then, justified by and limited by the expansion of the disposition to consumption. The standard of consumption must keep pace with the power of production, or there is no advantage in the increased power.

But the question whether standards of consumption do commonly keep pace with productive power so that, commonly, no surplus productive equipment comes to exist, and the question whether standards of consumption must commonly thus keep pace, are distinct and separate questions. To the present writer it appears to be true that, excepting in times of post-crisis depression, the standards of consumption do now, in most modern societies, manifest the requisite power of expansion, but that there is no theoretical necessity for this; and it appears equally clear that in post-panic times there is a distinct and disastrous restriction of consumption, with the result (1) that much equipment is temporarily a surplus, and (2) that in some measure there takes place in industrial processes a displacement of labor by capital goods.

And it appears to be true that the very fact that, through developing technique and increasing equipment, a high per-capita productivity obtains, with a large margin of average individual income over imperative individual need, explains how it may occur and does often occur that the volume of consumption varies, and that, through sharp restriction of consumption, industry is subjected to the periodic reverses and to the periodic wastes, insolvencies, and starvations which bad times connote.

We seem, then, to have come safely thus far: that, from the social point of view, saving should neither go to the extent of subtracting from present consumption more in utility than is added by the later increase of output, nor so far as to increase the later product to the extent that the later consuming disposition will not absorb it; the limits of rational savings are, then, set by the prospective elasticity of consumption.

But now, precisely where, if anywhere, does this leave us with regard to the problem of luxurious consumption for those times when the general attitude is one of overabstinence, — of overemphasis, that is, upon future consumption as against present consumption?

If in prosperous times the consumption of the rich displaces,

in the main, only their own later consumption, it must be still clearer that any expansion of consumption in times of depression cannot be at the expense of the consumption of others. And obviously, if the luxury of the rich employs productive energies that otherwise would not function, such harm, if any, as can result to others must be found in the direction of influences peculiar not to luxurious, but to ostentatious consumption — that is to say, not in the direction of any influence to restrict the absolute size of the incomes of others, but only the significance of those incomes. And if, in times like these, charity would be in any aspect justifiable, these luxurious expenditures have some obvious advantages over charity.

But what in such case are the economic effects of charity?

People who can find no work to do live somehow out of the actual product of industry, whether by the using-up of their own saved purchasing power, or by charity, or by loan. If we may assume that, through offered charity, their consumption is increased, and yet not at the expense of the consumption of others, but only with the result that more goods have been caused to be produced, it would appear to be true that the charity has meant added consumption for the recipients and added employment for others; and if, with their larger income, these others should be minded to increase their present rate of consumption, this industrial stimulus would be passed forward one degree.

The case would, then, stand as follows: by means of the substituted consumption of the recipients, the donors' existing claims against the products of others have been collected in the present and canceled, instead of being postponed for collection and cancellation to the future; and the collection has taken place at a time when society has been able to achieve the cancellation through the employment of productive energies that otherwise would have gone to waste.

This argument, if valid — which is doubtful enough — means much for the methods and the times of the carrying forward of public work. But even without the support of this particular argument, it should be fairly obvious that public improvements ought to be undertaken in times only of slack employment, and ought to be paid for in times of prosperity, rather than, as in present practice, carried on in prosperous times and on terms of displaced production, and paid for in time of depression.

But what does the argument imply for the social advantage of such saving as does not express itself in the increase of the productive

equipment of society, but instead, flows into consumption loans or goes to finance fiscal deficits? Here nothing but condemnation is possible. Any private investment which, for any considerable period of time, takes toll from social product by other title than of equivalent addition to that product is a socially disastrous thing. No matter what personal or moral justification there may seem to be, and as between man and man may really be, the case is, in last analysis, nothing but serfdom on the one side, and parasitism on the other.

The Quantity Theory of Money.

The quantity theory of money values — the theory that asserts that the general level of the exchange powers of money depends upon the quantity of it, or that changes in the quantity of it must bring proportional changes in general prices — would apply especially ill — were any one disposed to apply it — to the early history of any commodity, *e.g.*, gold, as money, and in the time of the very beginning of the slow and gradual process of selective emphasis. The quantity of gold must then, as now, have had some bearing on its exchange relations, its values. In this sense the quantity theory has no deniers. So, also, has the quantity of iron, or tea, or wheat, or bread, or cotton cloth, some bearing on the market values. There is nothing in this fact peculiar to money. But the quantity, say of gold, in use *as money* at that very early time could have had little bearing on its values at that time. There was no occasion for one value theory for gold and another for corn or cattle.

It is quite certain, also, that the present extended employment of gold as money (taking gold as a typical money and assuming it for the time being as the sole medium of exchange) must have a great influence upon the present exchange values of gold.

So far, then, the theory of price when gold is money does not appear to diverge from the theory of the price of gold bullion when gold is not used as money. Every widening of the field of use for any good affects the demand for it and the exchange relations of it to other goods. So far the quantity theory of the purchasing powers of money can arouse, and has in the past aroused, no opposition. Gold as money is a commodity among other commodities. If, then, there is force in the quantity theory of money, it must be true that the use of a commodity *as money* subjects that commodity to influences so peculiar as clearly to distinguish it from other and ordinary commodities. Is gold, as the

money commodity, more than a mere commodity, differing, because it is money, from gold or any other commodity employed exclusively in non-monetary uses?

But what, so far as at present carried, has the analysis to say for the merits of the quantity theory of money? The critics of the theory place their main emphasis upon two objections: (1) that goods do not and cannot, *as mere goods* — as pounds or yards or bushels of commodity — function as demand for money; it is only as a good *at a price* that any commodity requires money for its transfer. The quantity theory assumes, therefore, it is argued, that price relations are already established, as the basis on which it explains the prices — proceeds, that is to say, to explain price relations upon the basis of assuming the very price relations that are to be explained. Karl Marx, for example, says: "The sphere of circulation has an opening through which gold . . . enters into it as a commodity with a given value: hence, when money enters on its function . . . its value is already determined." [1]

And so Laughlin: "The difference in theory centers about the time and the manner of the evaluation process between goods and gold. . . . The evaluation goes on antecedent to the exchange operation, since the exchange cannot, philosophically or practically, take place until the rate of exchange has been settled." [2]

But, in point of fact, the entire argument of the opponents of the quantity theory proceeds upon an assumption which may be accepted *for the purposes of the immediate issue* — viz. that the exchange relations of gold to other goods must be explained upon the same basis as the exchange relations of copper or of bananas to other goods. The foregoing criticism is, therefore, not well taken: under the present issue the problem of the quantity theorist is not to explain how gold originally established itself in exchange relations with other goods, any more than to explain the early history of the price of copper or of bananas. His present task is to explain how a change in the present supply of money — gold being taken as the sole money — must affect its exchange relations to all the other goods against which it exchanges. He needs to establish merely that if there be, for example, twice as much gold money in the aggregate to be distributed among all these different exchanges of gold against goods, (1) the exchange relations will be modified, and (2) modified equally, and (3) that the fall in gold will be exactly one half,

[1] Marx, *Capital*, Morse and Aveling translation, Part I, Chap. III, p. 92.

[2] J. L. Laughlin, *Principles of Money*, p. 362.

i.e., prices will double. Neither for the quantity theorist nor for any one else is discussion possible of the effects of changed conditions upon prices unless upon the assumption of prices to begin with. The effect of more money upon the prices of copper or of hats — and some effect is not denied — assumes existing prices for the copper or the hats. Still other prices, indeed, have also to be assumed. How much money will be offered at any time for copper must depend in large part upon how far money will go in the buying of other things. Most price theory is, in fact, as we have seen, merely a schematic severing of the supply of one commodity, and of the money demand for it, from the prices of other commodities. Thus the entire demand and supply analysis for any commodity will go to pieces under the Spartan requirements of critics like these. And even were all price investigation to become historical, it must begin somewhere; and each step of it must take a given price situation as its starting point. The process will present itself as a long series of small incremental changes. But this is precisely the method of the analysis under criticism by Laughlin — a method which both the advocates and the assailants of the quantity theory are none the less compelled to accept; always the problem is to trace out, in a given situation, the changes in some things that will have to attend certain changes in other things.

But take the difficulty at its worst: Suppose that on either side of the river there are goods imperatively calling for transfer to the other side for exchange against goods there, and that there are only a fixed number of boats with which to do the transporting — just boats, not valuable boats: Will they not take on value? And if the carrying power of the boats is dependent upon the degree of exchange power that they take on, will they not, through the pressure of the competitive bidding for them, take on just the degrees of exchange power in all their different exchange relations that will enable them to do the imperatively necessary thing?

The second point of attack presents more serious difficulties for the quantity theory as it is commonly formulated. When gold had not yet come to be specialized to the money function, the supply of it had clearly something to do with the values of it. And so now the quantity of any ordinary commodity has something to do with the values of that commodity now. Likewise the quantity of gold as at present employed must have something to do with the present exchange relations of gold. All this the critics of the quantity theory freely admit, as indeed they are bound to do, since it is their fundamental doctrine — albeit an incorrect doctrine — that gold, whether

used as money or not, is a commodity whose exchange relations are to be fully explained under the principles valid for commodities in general. Thus, this second objection denies that goods exchange in one great total and aggregate against money — gold — as a total and an aggregate, any more than goods in general exchange against copper or wheat or iron as an aggregate. No such great exchange of money for goods — these critics assert — ever takes place, but only an indefinite number of separate exchanges, gold here against copper, there against wheat, and so on indefinitely. Each of these exchanges is a separate transaction arrived at as a separate adjustment of gold to the particular commodity in question. To conceive of the process as one great exchange of commodities for money is a social-organism interpretation of the facts, or some other fabulous misinterpretation. The general level of prices — the argument runs — is merely a way of summarizing or of averaging the results of all these different and separate adjustments. Thus Marx, having again denounced "the absurd hypothesis that commodities are without a price and money gold without a value when they first enter into circulation," proceeds to deny "that once in the circulation, an aliquot part of the medley of commodities is exchanged for an aliquot part of the heap of precious metals. . . . How use values which are incommensurable with regard to each other are to be exchanged, *en masse*, for the total sum of gold and silver in a society, is quite incomprehensible."[1]

And so Laughlin:

"The principles which fundamentally govern price . . . avoid all necessity of comparing the money work with the media by which that work is necessarily accomplished."[2]

"A general level of prices is nothing but an average made up of the actual quotations of single articles."[3]

"Are farmers . . . really influenced in fixing the prices of eggs in gold by any other considerations than the amount of money work and the total media of exchange?"[4]

"A general demand for goods arising from the side of money . . . is only a phantom demand, a figment of the imagination. . . . X is exchanged for money; then the money is given for Y. The real exchange is of X for Y."[5]

"A change in the value of gold . . . is itself a change in price. It seems quite unnecessary, then, to go through a subsequent process

[1] Marx, *Capital*, Morse and Aveling translation, p. 99.
[2] Laughlin, *Principles of Money*, p. 229.
[3] *Ibid.*, p. 316. [4] *Ibid.*, p. 316. [5] *Ibid.*, p. 324.

of comparing the media of exchange with the mass of transactions in order to procure a change of prices or to find the cause." [1]

"No average of the prices of a number of commodities can be derived in any other way than by combining the actual quotations of single commodities. . . . The general price level could not have been arrived at by a comparison of all the money work with all the media of exchange. . . . We must seek the forces affecting the general price level of goods among those already analyzed as operating on particular prices." [2]

"The quantity of gold has . . . affected prices only through its influence on the value of the standard of prices, and not through its actual presentation as a medium of exchange against goods." [3]

No answer is possible to this criticism; it is undeniable, conclusive, even axiomatic. If the doctrine under attack is the quantity theory at its best — if this is a fair interpretation of its essential position, as it is a fair interpretation of most that has been written in its advocacy — there is nothing to do but to abandon the theory.

The fact is, however, that the theory does not rightly rest upon the assumption that there is one great exchange transaction in which all the exchange relations of the various different goods to money are fixed; the general price situation is unquestionably nothing more than "an average made up of the separate quotations of different articles." Nor can this level be modified otherwise than through modifying the terms of the separate exchange relations between money and goods.

Thus either or both of the foregoing arguments against the quantity theory may be freely accepted without the slightest injury to the theory in any careful formulation. Prices must move upward with an increased supply of money, *as mere intermediate*, offered for goods. These prices are indissolubly connected and are equally affected by the change in the supply of the offered money. The change in the offered supply will make a precisely corresponding change in the prices of the goods against which the supply is offered.

We have already seen that most of the fluctuations in prices are due to changes in the credit situation. The commercial crisis is a collapse of credit. The low prices of the post-panic depression are due either to the terror or to the industrial havoc wrought by the collapse. Rising prices are commonly due more to expanding credit than to expanding supplies of money. How, then, can the quantity theorist account for credit in his formulations? Either (1) he must resort to the heroic abstraction of conceiving credit as a constant

[1] Laughlin, *op. cit.*, p. 342. [2] *Ibid.*, pp. 352–3. [3] *Ibid.*, p. 362.

relative to money, of treating it as one of the " other things assumed to be equal," or (2) he must reformulate his doctrine so as to assert that prices are proportional to the quantity of *exchange media* offered against commodities. Course (1) is certainly open to him, leaving over, however, the necessity of taking full account of the disturbances attending the fact that credit is one of the various things that actually never remain equal. Only in a long time and general average is it safe to assert that credit, as built upon money reserves, holds a fairly constant relation to the volume of money. To regard credit as a constant is doubtless necessary for certain purposes, since only by the method of logical isolation is the independent significance of the money changes to be analyzed. But inasmuch as the long-time and gradual changes in prices are of small practical importance, while the short-time disturbances and fluctuations are of paramount seriousness, the method of isolation can directly interest only the devotee of theoretical long-time analyses. (2) It is equally open to the quantity theorist to conceive of credit as currency, and to present the level of prices of any one time as determined by the supply of currency offered for the various goods respectively, as over against the respective supplies of goods. The different exchange relations must still be separately established between goods and gold, it being true merely that the use of credit in place of gold must greatly affect the exchange values of gold. In those exchanges in which gold is not actually used, a substitute, payable in gold or valued in gold, is the *quid-pro-quo* in the exchange. Thus gold becomes so much the more plenty for the remaining exchanges in which it is actually used, and the values of it and of all the substitutes interchangeable with it come to be fixed in those transactions in which gold is the actual medium. Thus it need not greatly matter to the view under consideration whether credit be conceived as adding to the total supply of media or as diminishing the volume of transactions calling for the use of the actual gold and functioning therefore as demand for it in its service as medium. In either of these views, however, the necessity or reserves must be considered. Credit, as an addition to the total supply of media, must stand as merely a balance between the total credit and the reserves necessary in support of it. Or if credit be viewed as an economy of money, allowance must similarly be made for the amount of money required in the reserve function.

Taking, then, the products to be exchanged as constant, and taking the volume of credit to be constant in its ratio to the volume of money on which it is based, the level of prices must be in direct ratio to the volume of money offered against goods. If, however,

credit is not conceived as a constant relatively to money, the level of prices must stand in direct ratio to the volume of money and of credit offered against goods.

We conclude, then, that, as a long-time influence, an increased quantity of money must lower its exchange power — the exchange power of the standard — in its various exchange relations, not as an increase relative merely to the money use, but relative to its entire use as money and as commodity. Gold values are due on the demand side to both of these demands, and the total supply is distributed between these demands, precisely as is the total supply between the different countries, according to the relative strengths of the demands. The money demand, as an especially imperative and inelastic demand, must absorb, as against the commodity demand, enough of the gold at any level of its exchange powers to mediate the volume of exchanges dependent upon it. It is merely a crude rendering of the quantity theory that " bases prices upon the quantity of the gold [money] actually passed from hand to hand as medium of exchange." [1] The exchange values of the money unit are not derived from the commodity market nor are they prescribed to the commodity market. Both demands concur in affecting the exchange values of the commodity which is used for both purposes. So long as no barrier exists between the two uses, no item of gold can remain in use as money, if it has as bullion a higher exchange power in any other use than it has as money. The money use will, on the other hand, absorb every ounce of gold to which it can offer the better market.

But there are certain phenomena of prices which the quantity theory — in any usual formulation — does not explain, and which the opponents of the theory cite insistently in refutation — the while themselves keeping safely distant from any attempt at explanation.

No matter what the relation of expanding credit to prices precisely is — and in this regard the divergences of doctrine are not serious — it is clear that the motives prompting both the application for credit and the granting of it are various. It is only at fairly distant intervals that the banks are seriously limited in their credit extensions by any shortage of reserves: and even at these times, the limitation is commonly due to the acute but temporary stringency attending the seasonal movement of crops or to the recurrent dates of heavy financial settlements. Loans, therefore, may, it is true,

[1] Laughlin, *op. cit.*, p. 280.

be restricted by the inadequacy of reserves; but the fact is that they are not commonly so restricted.

Why, then, with reserves to spare, do not the banks extend their credit activities? Not rarely because business men are not asking for the larger credit. Or, again, the banker may regard the direct risks as overgreat. Or, still again, he may hesitate because of unknown possibilities of reserve pressure or of disturbed credit in the future. Recalling that new supplies of gold go mostly to the mints, and move thence to the banks as deposits, it must commonly be true that the new gold has no effect to influence the amount of credit in circulation, and no *direct effect* to change the amount of gold in circulation. Some effect in the latter regard it undoubtedly does have — but by methods for which the quantity theory makes no provision — methods, indeed, which are not easy to make consistent with it. At these times of plethoric reserves, the change in general prices is initiated in the non-monetary market for gold. With the greater supply of it both for money and for commodity uses, more of it is used for commodity purposes, at falling exchange ratios against other things. As gold falls in the commodity market, it has also to fall as money; prices go up. With these higher prices and the larger need for a circulating medium, credits commonly expand, and at the same time some gold tends to leave the banks for cash exchanges. Thus, with some loss of gold from the bank holdings and with some increased need for gold to go with larger credits, the balance of idle reserves is narrowed; the quantity of media is changed as a result — not as a cause — of the changed level of prices.

There is, then, no fixed and regular ratio between the volume of gold in the aggregate and the volume of gold *in circulation as money*, either directly or as reserves for credit. Nor is there any uniformity of ratio between the volume of gold in the banks and the volume of credit reared upon it. It is, however, as we have seen, fair to regard these as short-time divergences from the norm. In the long run and in the broad average, the volume of credit depends on the volume of money — reflects it — shadows it. But it is in the very long run.

This same short-run lack of correspondence is illustrated with even greater emphasis in the phenomena of crises and of post-crisis depression. It is, indeed, at this point that the critics of the quantity theory have made their final and impregnable stand — but only *as a short-run appeal to the other things that are not equal.*

The crumbling of prices in time of panic is explained by the partisans of the quantity theory as a contraction of credit; thus a contraction of the total of the circulating medium; and thus a

fall in prices. No difficulty is commonly felt with the fact that the prices of some things are falling with especial rapidity. Allowance is, however, now and then made for the increased demand centering upon what is left of the circulating medium by reason of old credit relations that are now pushing for liquidation.

But the difficulty with the explanation is that it only partially explains. Not only this, but the facts are perhaps more easily fitted into the contrasted emphasis, viz. that money in each of its exchange relations is coming to buy more goods — goods to buy less money.

The truth is, however, that other and important causal forces are at work in time of panic.

The tumbling of prices in the panic is in large part due to the fact that the holders either of money or of deposit credit will not buy with it. Physically the money is there — as quantity, as concrete thing; psychologically, as purchasing power, it has vanished. So, also, the deposit credits exist, but they have ceased to exist as demand for products. They are merely hoarded, postponed purchasing power. As present circulating medium, as present demand for anything, they are not.

Thus there are more goods being offered against currency — not all of them at once, truly, as one transaction — than are possible of sale at the immediately preceding level of prices. So prices fall. But there is more in the case than the mere scared or speculative retirement of the circulating medium. There is also an increase in the volume of commodities pressing for sale at the existing prices — many of them, indeed, for sale at practically any price above nothing. There is, in truth, not only less currency, but also more goods. A panic is equally a scared scramble to get gold — or things interchangeable with it — and a scared tenacity in holding it, — more generous offers of goods against it and higher refusal terms for it.

There is, then, a change both in the demand disposition to offer goods for money and in the supply disposition to offer money for goods. Holders of goods fear financial pressure or a further fall in the prices of goods, and so push to sell: holders of money may be apprehensive of possible demands of creditors, or may be looking for further advantage as purchasers with further putting off of buying; or they may have become convinced of the wisdom of a final withdrawal from all this up-and-down of things with its menace of loss, and so are waiting to lend out their funds in some safe and long-time placement — or are going to do some one or other unfixed

thing a year hence, when they shall have recovered from their fright. Temporarily, then, the emphasis is on currency, the intermediate of exchange, but not on currency as intermediate between present goods and present goods — not on currency as present purchasing power, but on currency as deferred purchasing power, on currency for future purchases rather than as demand for present goods. True, the quantity of money has not changed; nor has the aggregate mass of goods become greater. But the offered currency is less and the offered goods are more.

The truth is, then, that there are changes in price levels that are irrelevant to changes in the aggregate volume of goods produced, and irrelevant, also, to changes in the volume of money, and which are not to be accounted for by changes in the volume of credit available as purchasing power, but are solely explicable as changes in the attitude of the holders of goods toward purchasing power and of the holders of purchasing power toward goods. Times of panic involve the influence of strong, though unusual, psychological movements, wherein the medium of exchange is itself the subject of a new emphasis and of speculative activities.

And the phenomena of the post-panic situation also, the lethargy and stagnation of the dull-time years, still further illustrate a psychology peculiar to monetary affairs — a psychology to which the quantity theory affords no key. The bear movement in goods continues and may even be emphasized. The prevailing disposition is to get hold of suspended purchasing power and to keep hold of it. Despite an increasing plethora of reserves in the banks, and despite falling rates of interest for those borrowers whose credit is good enough to enable them to borrow at all, prices remain low. The diminished volume of exchanges and the generous reserves are together inadequate to bring about an upward movement in prices, or appreciably to stimulate purchases at the prevailing low general prices. It remains difficult to find a market for products, simply because each producer is attempting a feat which must in the average be an impossibility — the selling of goods to others without a corresponding buying from others. Goods refuse to exchange through money against goods, but only against money, as the purchasing power with which to control future goods when the purchasing disposition shall reëstablish itself. In other words, the prevailing emphasis is upon money, not as intermediate for present purposes, but as a commodity to be kept — regarding money not so much as an intermediate in trade as an end in itself, or, more accurately, not so much with reference to its chief function of mediating

exchanges of present goods as to its usually subordinate function of mediating exchanges between present goods and future goods. For all present purposes of exchange relations and of prices, the psychology of the time stresses not the goods to be exchanged through the intermediate commodity, but the commodity itself. The halfway house becomes a house of stopping. There sets in an abnormally developed emphasis upon money or credit as deferred purchasing power rather than as present purchasing power — on money for future purchases rather than as demand for present goods. Or to put the case in still another way: the situation is one of withdrawal of a large part of the money supply at the existing level of prices; it is a change of the entire demand schedule of money against goods — offer prices and reservation prices both being included. If the terminology of the case is to be fitted — so far as may be — to the needs of the quantity-theory analysis, this diminished disposition on the part of holders of money to let it go will have to be interpreted into a diminution in the supply of money.

And a similar necessity will face the quantity theorist on the supply side of the market analysis: he will have to interpret an increased pressure on the part of holders of goods to sell them into a radical increase in the supply of goods. In any accurate statement, however, the truth of the case would run about as follows: In ordinary times, and with men in their ordinary minds, only a small part of the goods that they have are for sale, or if for sale, are not for sale at what anybody would think of giving. The goods were bought to keep, because they were wanted as against anything else that the money was likely to buy. The very reasons that have motivated the buying of the goods in the market now prohibit their resale in the market. Thus it is true — in one way of stating it — that at the ordinary established level of prices only a small part of the total volume of goods is seeking exchange through the intermediate. The rest of the goods have already distributed themselves into their permanent abiding places. There is no other place in which they so well belong as in the hands of the men who now have them. If they are to be rated as supply at all, — as surely in ultimate theory they ought, — they enter into the respective supply schedules at such high refusal or reservation prices as to have no slightest prospect of being sold. They are salable at a price, but find no takers at the price; they are excluded supply.

But with changing times men's minds change. Under stress of fright or under pressure of financial need, or at some speculative raid or speculative funk, there may come a radical scaling down of these reservation prices as well as of the offer prices. And especially

— and especially disastrously — in the period succeeding a panic, is there manifest a widespread and extreme solicitude for the needs of the future as against the present — a mania for collecting units of purchasing power for purposes of future use — rainy-day provision run mad.

What is the quantity theorist going to do with the necessity of fitting the short-time and especially significant perturbations of things into his long-time categories? If he is to succeed in making his formulas fit the facts, it must be on terms of reconstructing his fundamental value categories, and therewith of reinterpreting some portion of his quantity-theory doctrine. The summons is, indeed, peremptory to do these things. Nor are they at all impossible of doing.

Bimetallism.

The world's stock of available gold for both monetary and non-monetary purposes is probably from ten to eleven billions of dollars. Something over one half of this is absorbed by the money demand. If, indeed, the reserves of the great banking houses of Europe and the reserves of the numberless small banking houses scattered over the world are estimated and included, probably something upwards of 65 per cent of the available supply of gold is devoted to monetary uses. In the United States, accordimg to the government report of August 1, 1912, 47 per cent of a total circulation of 3277 millions of dollars, was gold either as coin or as gold certificates. The total of gold in monetary use in the United States, inclusive of the treasury holdings, was 1833 millions.

That the purchasing power of gold would fall sharply, were gold demonetized the world over, cannot be open to question. Nor more is it to be questioned that the money use for gold has greatly contributed to the establishing of its present different purchasing powers.

Equally unquestionable is it that the demonetization of gold by any one country would work its quota of fall, and that any new adoption of gold as money must contribute either to raise its purchasing powers or to mitigate a fall which would otherwise occur. This is not quantity-theory doctrine, but monetary doctrine at large.

Not less certain is it that the series of silver demonetizations from 1870 down to the present time have contributed to the fall of silver in terms of gold and to the falling powers of exchange of silver in terms of other things. And, finally, it is equally clear that any partial remonetization of silver would affect its market position

favorably, and that its general remonetization would sharply raise its commodity values, and still more sharply its exchange power relative to gold. The especially marked effect upon the exchange power relative to gold would be due to the fact that the remonetization of silver would in itself amount to some degree of demonetization of gold.

The foregoing is, in broad lines, an account of what is known as the "compensatory action" between gold and silver, when both are freely coined at any fixed ratio — whether on the basis, say, that a silver dollar shall contain sixteen times as much weight of silver as the gold dollar contains of gold, the ratio of 16 to 1, or on the basis that the silver dollar contain twenty-five or thirty times the weight of the gold dollar, the ratio of 25 or 30 to 1.

An ounce of silver is actually worth $\frac{1}{35}$ of an ounce of gold. If the coinage ratio were made one to one, an ounce of silver coining into as much money as an ounce of gold, only silver would be coined. And if, on the other hand, the coinage ratio of silver to gold were 50 to 1, no silver would be coined. The silver so coined would be worth only $\frac{35}{50}$ as much as coin as it was worth before coining. To coin it would be to stamp it as worth less than its actual bullion worth — to make 50 ounces of silver exchange against one ounce of gold when, in actual fact, 35 ounces of silver bullion are worth one ounce of gold bullion. No one could afford to coin anything but gold.

If, however, the ratio selected were not widely divergent from the actual market ratio — say 36 to 1 — only a slight change in this market ratio would be necessary in order to bring silver into monetary use. Nor would the coinage of silver necessarily mean that the coinage of gold had stopped, but only that it were less rapid. Silver would be in some part — greater or less — usurping the place of gold in furnishing the bullion supplies for new coinage. But no great supply of silver would be available at the lately reached identity of the market ratio with the coinage ratio. It might be true merely that gold would be coined less than if silver were not coined at all. In any case, the total coinage of the two would be greater than if only one were coined. This slow and gradual coinage of silver would mean, therefore, some slight tendency toward rising prices — or prevention of fall — even though it might all the while be true that the reserves of the banks were generously ample. But note that the rise in prices must be very gradual — or the prevented fall be inconsiderable — not merely because the inflow of silver would be slight, but because, concurrently with this inflow of silver and its effect upon prices, the gold inflow must be in some degree checked, or

even an outflow set up, in response to the relatively increasing attractiveness of the outside market.

It is clear that so far as gold were being set free by silver from the money use, this must be on terms of affecting adversely the purchasing powers of gold in the outside markets to which it flows. And so far as silver were being absorbed by the money use in place of gold, this must be on terms not only of affording to silver a wider market, but also of retarding the fall which must otherwise occur in the exchange powers of silver relatively both to commodities in general and to gold. Silver could come to be coined only when its exchange ratio against gold had so far fallen as to make its coinage possible. Its further coinage must tend to hold the market ratio at the level of the coinage ratio, not only by setting an end to the fall of silver relatively to gold, but also setting up a fall of gold — or of preventing a rise which would otherwise have taken place.

In tendency the new coinage of silver is, then, (1) adverse to the purchasing powers of the money unit, (2) adverse to the purchasing powers of gold, (3) favorable to the purchasing powers of silver, (4) conservative of the exchange ratio of the metals at the coinage ratio:

(1) The coinage of silver takes place at a net increase in the number of money units: Therefore the purchasing powers of the unit cannot be as high as if no silver were coined.

(2) The money unit falling, and gold being still employed as money, gold must also fall both as bullion and as coin. It is, indeed, solely by virtue of this fall that larger supplies of it are available for commodity purposes.

(3) The fall of silver relatively to gold which makes possible the coinage of silver is retarded by the new market which is opened up for it.

(4) This retardation of the fall of silver occurs concurrently with an unfavorable influence upon the purchasing powers of gold. Thus the fall in the purchasing powers of the money unit takes place side by side with a tendency favorable to the values of silver and unfavorable to the values of gold.

This same line of analysis would obviously hold were silver the original standard and gold the metal made available for new coinage. Nor is it necessarily true that the inflowing metal must bring about a fall in the purchasing powers of the unit; the effect might be merely to mitigate a tendency toward rise. The analysis is valid merely to establish the different *directions* of influence attendant upon the joint coinage of the two metals.

We are now prepared to examine the essential doctrine in the bimetallic position; namely, that in view (1) of the retardation of the tendency of the new metal toward fall relatively to the previously existing level of gold, (2) of the adverse influence upon the level of gold, (3) of the fact that the purchasing power of the money unit of either metal is unfavorably affected, and (4) of the fact that in the monetary use the two metals are equal and interchangeable and are moving in this monetary use concurrently in their level of purchasing powers, — the two metals must everywhere, in their exchange ratios one to the other, maintain the ratio fixed for coinage purposes, so long as neither has been coined in sufficient quantities as entirely to displace the other from the money use.

It is evident that if the free coinage of the two metals at the assumed ratio were attempted by any one country alone, some part of the displaced gold would flow abroad for foreign monetary uses, and some part be set free for the world commodity market. In such case gold would suffer relatively little in its level of exchange power. The rise of prices in the bimetallic country could not be very appreciable without the disappearance of all the gold from the monetary use. The total of money units would be increased, but not greatly increased, so long as gold circulated at all, since the number of units of silver inflow could not greatly exceed the number of units of gold outflow. The general change in prices attendant upon the process of displacement would be relatively slight so long as any gold remained in circulation.

If, however, the joint coinage were international and general at the assumed ratio, such outflow of gold as took place must be solely into commodity uses. The adverse influence upon the purchasing powers of gold would be more marked and the difficulty of maintaining the actual exchange ratio of silver to gold at the coinage ratio would be much less serious. In either case, however, it is clear that the outflow of gold resulting from the inflow of silver cannot be unit for unit. With the lower exchange powers of the money unit more units are required. The inflow must exceed in units the outflow.

With the world half bimetallic and half silver monometallic, the difficulties would be other, but not greater, in holding together the exchange parity and the coinage parity: Assuming still that the coinage of silver were to take place only when the fall in silver had brought its market ratio up to the coinage ratio, or assuming that the coinage ratio did not appreciably depart from the existing market ratio, the available supply of silver for the new coinage

would be small, and the share of the new product offering itself at the mint be greatly restricted through the coinage requirements of the silver standard countries. The coinage of silver could, then, have no great significance in its earlier stages either for good or ill. In the long run, however, the continued and perhaps increasing coinage of it might equally readily either bring about a depreciation of the money unit or prevent an appreciation. Where, then, there is an evident tendency toward the appreciation of gold as money, the concurrent coinage of silver must somewhat retard or prevent or even overbalance the trend of gold toward appreciation. And if either metal used alone as money were tending toward depreciation, the adoption of bimetallism must somewhat accelerate this tendency.

It should now be clear that, with the actual market ratio of silver to gold approximately 35 to 1, the free coinage of silver at the ratio of 16 to 1, if adopted by any one country, say by the United States, would almost immediately result not in national bimetallism, but in silver monometallism. The silver necessary to replace our 1800 millions of gold would promptly be drawn from the world's supply of silver, or, if this amount of silver were not promptly available, would shortly be supplied through the absorption of most of the current product. Silver would doubtless sharply rise in its exchange ratios to commodities, and still more sharply in its exchange ratio to gold, while gold would somewhat fall in its general level of exchange power. But the rise in silver and the fall in gold would together come far short of changing the world ratio from 35 to 1 to 16 to 1, and in any case could not long maintain a ratio so vastly overvaluing silver either to goods or to gold, in view of the respective conditions of supply.

The annual production of silver — at the coinage ratio of 16 to 1 — is not far from 200 millions. Making, then, no account of the silver which free coinage at this ratio would attract to our mints from the present world's stock, and making no account of the inevitable stimulus to production, it is evident that nine years would suffice to furnish from the mines as many new silver dollars as our monetary system now contains of gold dollars. The displacement, truly, could not be unit for unit; it would require more than 1800 millions of silver dollars to displace the 1800 millions of gold. But the world fall in gold could not be very marked. If, then, the national free coinage of silver could by any possibility bring even the temporary concurrent circulation of silver with gold, it could bring this for only the shortest period of years. Speculative forecasts of

the ultimate certainty would, indeed, almost inevitably veto even the temporary success; gold would vanish forthwith.

Nor with the certain stimulus upon the production of silver and with the probable speculative activities, is it probable that international bimetallism, no matter how widespread, could long endure at the ratio of 16 to 1, though it would probably establish itself temporarily. Something like seven billions of gold are employed in one form or another in the world as money. The available silver in the world — the silver not already in monetary use — is a matter of sheer conjecture, but probably does not exceed two billions out of a total stock of from eight to nine billions. Till, then, the seven billions of new silver necessary for the replacement of the gold, unit for unit, were found, the parity of silver with gold might be maintained. The temporary parity would, indeed, be certain, were great speculative movements not both possible and probable. But it is at any rate clear that vastly more than seven billions of silver must be forthcoming in order to break the parity, in view of the limited non-monetary field to which gold could be driven and of the sharp depreciation to which it would be subjected. Gold would not drive out easily. With its progressive fall, progressively larger would be the requirement of silver to maintain the rate of gold outflow. With the great increase in the excess of silver inflow over gold outflow, the volume of money must be rapidly expanding and prices correspondingly rising. The volume of new silver requisite for the money need on the basis of this high level of prices would evidently be far beyond seven billions. The last unit of gold outflow could be reached only on the terms of this last unit being worth more as commodity than the last unit of silver inflow were worth as money. Finally, however, the complete displacement of gold by silver must come. And, in fact, the longer it should take, by reason of the more silver that it would require — the parity thereby the longer enduring — the more disastrous must be the rise in prices which would attend it.

Take it, however, that the ratio were originally established at 35 to 1 or at some ratio fairly well approximating the permanent market conditions attaching to the supplies of the two metals: At 35 to 1 nothing noticeable would happen — some little silver coined, an inconsiderable outflow of gold, an inappreciable effect, for a long time at least, upon the system of prices. At 30 to 1, all these different effects would be somewhat more marked. Recalling, however, that neither metal can entirely disappear from the currency until the supply of the incoming metal can be sufficiently

great to permit the last unit of inflow to be of less value than the last unit of outflow, it is evident that the process of the complete retirement of either metal must extend over a long period of time.

Nor, from the basis of the present market outlook, is it probable that silver is more likely than gold to be the metal to suffer the relative fall. The present trend is rather toward the relative depreciation of gold. It might, indeed, be either of the two metals that would finally disappear.

But if international bimetallism were one day to lead to one or the other monometallism, there need be no disturbance or disaster attendant upon the divergence of the market ratio from the coinage ratio, if only the process were so gradual as to invite no great speculative activities. And the process would almost inevitably be thus gradual. No one would know the precise time at which the process of displacement became complete. Nor would the reëstablishment of bimetallism at some new ratio offer serious theoretical or practical difficulty.

International bimetallism is, then, an entirely workable policy from the point of view of monetary theory, no matter how serious might be the political problem of arriving at the necessary international adjustments or of preserving the unity of action necessary to the continuance of the system. The ultimate theoretical question is rather whether the system — granted that it is practicable — would be worth while. How much would it accomplish for the stability of the standard?

Not much if anything. First, however, it must be made clear precisely what sort of stability it is that the nature of the standard problem requires. The stability of any intermediate as standard is important only in the deferred payment aspect of the case — only, that is, when the lapse of time affects the problem, as in loans, or in sales on time, or with the receipt of money for deferred outlay, or with serial incomes fixed by contract or by custom.

It cannot, therefore, at all matter what some distant or original "level" of prices may have been. It matters merely that the level shall not change during the period with which the deferred payment relation is concerned. That in the average and over long periods the supply of money keep pace with the demand — outrunning the demand at one time with rising prices and lagging behind at another time with falling prices — neither solves nor advances the problem. No long-time and average stability of prices is to the purpose. These intermediate and possibly offsetting fluctuations are the very crux of the problem. Whatever may be the new level once established, every

deviation from it is in itself a new disaster, a disaster which is in no degree to be mitigated by some earlier movement in the opposite direction and which is without virtue to justify or mitigate any later movement. Every variation is a separate evil in its own right independently of what has earlier occurred or may later occur. The next variation, though in the reverse direction to the last, is a new and independent evil and is neither the better nor the worse by the fact that, running counter to some earlier variation or offsetting some probable future variation, it may tend to preserve some long-time average of general prices or may aid toward bringing an errant price system back to some original or mathematical norm. There are no norms for the purpose. Once a rise has taken place, that is in itself the sufficient reason why the new system should remain stable. Once a fall has taken place, there is no better reason for an opposing rise than for a further fall. We are concerned in the present question not to compare any given situation with some original situation or some average of situations, but only with the situation immediately preceding. Every change in situation establishes a new base line of reckoning. No long-time basis which is not also the last basis is pertinent to the inquiry.

In view of the fact that most credit relations are for relatively short terms and that most general changes in prices are due to something other than changes in the supply of the standard — are due, that is, to fluctuations in the volume of credit or to variations above or below the norm of psychological attitude with reference to investment or expenditure — there is no great significance for any purpose in that relative uniformity in the money supply which is expected by the bimetallist from the double standard. All that he can rightly urge is that, so far as these long-time variations in the quantity of money do actually work out into long-time general movements in prices, they may somewhat accentuate the short-time changes due to other causes. And the bimetallist would rightly point out also that some deferred payment relations, *e.g.*, government debts, are of very long duration.

And for the bimetallic side of the case it is to be further noted that, with an increasing world population and an increasing per capita production, and with some possible trend toward the further division of labor between individuals, districts, and countries, there must come a fairly constant increase in the volume of exchanges to be mediated. Unless, therefore, the use of credit or of other substitutes for coin is likely to increase and to increase *pari passu* with the volume of exchanges, there will be need for an increasing

supply of coin in order that a long average stability of prices be maintained.

And the bimetallist would add that the sources of supply of either gold or silver are in the nature of the case limited, and that with the progressive exploration of the world, new sources of supply are likely to be less and less rapidly discovered. The supplies of neither metal alone are to be counted on to keep pace with the need. The law of diminishing returns appears to apply to the production of the precious metals. Thus the long future will probably develop a tendency toward falling prices, and any project promising, as a long-time influence, to mitigate this tendency must be a beneficent policy.

And the case is really stronger than this: The products exchanged through the monetary mechanism are in the main promptly consumed. They do not greatly accumulate. If the social product is larger by 5 per cent each year, the aggregate supply of exchange media will need to expand by this same per cent and this 5 per cent expansion be computed for each succeeding year upon the basis of the volume of the media of the preceding year. There will be required something like a geometrical increase in the volume of money, if the long-run but gradual shrinkage in prices is to be avoided.

Having now in mind the ultimate meaning and the ultimate difficulties in the maintenance of any long-time stability in prices — what has bimetallism to promise either for short-run stability, the important thing, or for long-run stability, the relatively unimportant thing?

It is evident that with bimetallism once established, the supply of coin for money purposes will be greater, and general prices higher than had either metal been used alone; on no other basis is there anything to be discussed either for good or ill.

With bimetallism established, we start, then, with a new base line of prices. What are the chances of deviation from this line as compared with the chances from a one-standard basis? Recall once again that we have no concern with any or all of the possible fluctuations of the past; nor are we concerned with any possible future fluctuations unless as measured from the corresponding — the immediately preceding — price system. With each new base line, the original problem would merely be repeated: Measuring from each new situation, with which policy, the single or the double standard, is fluctuation the more probable and the probable fluctuations the more marked?

There are four possibilities in any bimetallic situation: (1) that both gold and silver are expanding in supply faster than the expanding need; (2) that both are lagging behind the need; (3) that gold

is outrunning the need, while silver is lagging behind; (4) that silver is outrunning the need and gold lagging behind.

(1) Both outrunning the need:

If both are equally outrunning the need, a rise in prices is inevitable as measured from the general prices immediately preceding. Neither metal will be displacing the other. The rise in prices will be neither greater nor less than it would have been with either alone, reckoning, of course, in each case from the price system appropriate to the case.

But one metal will probably be manifesting a more rapid increase than the other: then the rise in prices will not be as marked with both metals together as with the worse one of the two, and will be more marked than with the better one of the two alone: The result will be worse than with the better and better than with the worse.

There is nothing to choose here between the bimetallic and the monometallic systems.

(2) With both metals underrunning the need, a parallel analysis holds. The fall in prices will be less marked than with the worse metal alone and more marked than with the better metal alone.

(3) and (4) With one of the metals outrunning the need and the other metal underrunning, the price system attaching with the coinage of both metals would be preferable to monometallism with either one, reckoning from the situation appropriate to that one.

Something, then, there is, in the long-run aspect, of advantage in the bimetallic system over the monometallic; in two chances out of four bimetallism offers the better outlook. But does this mean that, for these long-run purposes, bimetallism would be the preferable system — for whatever of significance there is in the long-run computation? Possibly so, but not clearly. On the side of the influences of technique, the two metals would probably concur rather than diverge in tendency. So far as the discovery of new sources of supply were the decisive factor — though probably a factor of diminishing importance — the prospect of advantage would be on the whole greater under bimetallism.

We may conclude, then, that in a period of falling prices, bimetallism would, at its inception, tend to mitigate the tendencies toward generally lower prices, and would offer the prospect of further advantages in the remote future — advantages, however, of no great significance in the problem. In a period of rising prices, the harm attending the initial step would pretty clearly outweigh such remote and unimportant and essentially contingent advantages as might befall.

Having now examined the relations (1) of gold to other moneys, (2) of gold and these other moneys to banking, and to the banking function of credit, (3) of banking and credit to the volume of currency, (4) of the volume of currency — moneys and credit — to prices, and (5) of the relation of the volume of currency to the volume of funds for loan at interest, — we are ready to undertake an examination of the forces and processes fixing at any time the rate, or the different rates, of interest.

CHAPTER XVIII

LOAN FUND CAPITAL

The rate of interest. — Interest in the actual competitive organization of society has already been defined as the premium which general purchasing power, expressed in terms of money, commands over future purchasing power similarly expressed. The rate of interest is this premium expressed as a percentage — whether as a rate of increment to attach at a future time to a present sum of dollars as principal, or as a percentage of discount to which a future sum of dollars is subjected in reaching a sum of present worth in dollars. Always and everywhere an interest rate reports the relation of exchange existing between present dollars and future dollars. The rate expresses the terms of exchange as a ratio — 100 of present dollars against 105 of future, or 105 of future dollars against 100 of present dollars.

This is not at all to assert that the same phenomenon — or a similar phenomenon — might not be present in some other form of society and be expressed in other terms, but only that in the present society interest is a pecuniary category in a dollar computation. Much confusion will be avoided by holding this truth in firm grasp.

The rate an exchange adjustment. — The terms on which present purchasing power exchanges against future purchasing power is therefore one more problem in the adjustment of price. There are offers of present purchasing power and there are bidders for it. The rate per cent is the point of adjustment between supply and demand. The interest problem, then, like any other problem in price, leads to an examination of the nature and sources of the demand for loans of purchasing power, on the one side, and of the origin and nature of the supply, on the other side. Our problem

will, then, later lead to an examination of the two inevitable aspects of every price investigation: (1) What, on the demand side, determines the dispositions to pay, (2) what determines how great is the supply, and the terms on which the various units of it are offered.

Capital and loan fund capital. — First, however, there is need to make a general survey of capital in the large, in order to make precise the place and significance in society of the loan fund variety of capital. That moneys and credits are private capital will need no further repetition. But, as forms of capital peculiar to the competitive organization of society, are they not distinctively and peculiarly competitive in their functions? And if either money or credit is social capital, are both social capital upon the same level?[1]

What media are capital. — It was made clear in Chapters III and IV that in a competitive society the medium of exchange is a necessary means to the enjoyment of the great advantages attendant upon the division of labor; that it is solely through being a price economy — a money economy — that a competitive society can be efficiently organized for purposes of production; that precisely because exchange is a socially productive process, the commodity or commodities selected as intermediates in exchange must be held to serve a function as important as that of any other

[1] That the concept of social capital is essentially a vague concept is not to be questioned; all of the preceding discussions have, indeed, in terms or by repeated implication, emphasized this objection and this protest. Only by antithesis to the intelligible and actual categories of individual enterprise can the social concept approximate to anything like tangibility. But none the less the notion has a content — only that it is discouragingly indefinite. There clearly is a grand total of land and of equipment contributing to the aggregate production and consumption. But precisely what things rank within this total? Or what shall stand as the common denominator under which they can be aggregated? Competitive prices will not serve.

The difficulty with the concept of social capital is really the same as with the concept of social productivity: appraisals of the objective facts are mixed and confused in the concept with the facts themselves. Is land capital? All land — wheat, champagne, and opium lands equally? So, again: some factories are social capital. But corset factories? Peruna and Hop Bitters factories?

of the tools of industry. Currency — money, or credit substitutes for money — is one of the most effective of labor-saving appliances. Therefore, the bullion utilized for this purpose is not only social wealth and social capital, but it is social capital at a very high degree of productiveness — a wise and necessary social investment, a means of conveyance, of transportation, of the same general type of service as highways or freight cars, but outranking these in degree of usefulness.

Money is, therefore, not merely private capital, but it is also social capital, a source of gain to the individual and a source of service to society. Bullion money is, however, not the only capital that is lent. Bank notes and greenbacks and deposit credits are clearly private capital; are they also social capital? If every creditor is the richer by the credit, is there not somewhere a debtor who is correspondingly poorer? Credits are mere claims; to cancel them would seemingly not affect the total social wealth, but would only redistribute it.

Credit as capital. — But the truth is that so far as these relations of liability from one member of society to another serve as media of exchange, they are more than credits; they are credits which are fulfilling a social function. However imperfectly they may fulfill this function, they dispense with the use of bullion for that purpose. If coinage currency is a labor-saving device, credit currency is a bullion-saving device. Regarded, then, in this light, it is not illogical to view credit money as social wealth. The objection is, however, also forcible that knowledge and experience

Town Topics printing presses? Burglars' jimmies? Tax-farming contracts? Breweries? Soda fountains? Counterfeiting tools?

Or, again, carpenters and masons are socially productive; so — often — the doctors; most preachers — if their doctrine is good; some teachers — those that teach the right theory. But ballet girls? Lawyers? Adulterating chemists? Bar tenders? Soldiers?

It is the unprecision of these social concepts which, even when by antithesis they are relevant to competitive activities, leaves the concepts unadapted to accurate and analytical thinking. Thus the justification for employing them is found only as providing a vague or negative background against which to outline the precise and actual concepts of the present competitive order. Competitive capital and social capital are neither concentric nor separate circles. Each includes some part of the other's field — intersecting circles — only that the competitive concept is limited and definite in circumference, the social concept rather a formless smudge than a circle.

are likewise effective for the saving of labor and of wealth, and are yet not wealth — whatever other or better thing they may be held to be. They belong rather to the organism than to the environment; they are not facts objective to the possessor. If a method were possibly to be discovered in a competitive society of dispensing with money of any sort, no room would remain for asserting that an increase in wealth had so far taken place. The change would be one of institutions, of human development, precisely as, when medical wisdom is more, pills and tonics may be less. But the wisdom is not wealth, and while the pills are still wanted they are wealth.

The distinction is a nice one and not altogether satisfactory. If credit is not social wealth, it is none the less clearly private wealth. And it is a sort of private wealth that has, at times and within limits, a social serviceability. Money, at any rate, is not in any especial or peculiar or emphatic sense a distinctly private and competitive form of capital. It is merely a form of private capital that is peculiar to the competitive organization of society — characteristic of it and central in it, and of the highest significance in the actual functioning of it. It and its substitutes are the things trafficked in in the interest market. Credit, as the substitute for money, and as in volume outranking money itself as medium of exchange, and as, by its variations in supply, furnishing most of the important changes in the market situation and the market rate of adjustment of supply to demand, is the chief and most important ingredient in the aggregate fund of suspended purchasing power and in the supply of currency for loan.

What private capital includes. — Private capital, that form of capital with which actual business is concerned, includes, as we have seen, all forms of durable private wealth — all such property of any individual as requires an appreciable period of time for the rendering of its service, — all possessions any of the incomes of which are so far remote in time that some of these suffer in present price estimation by the very fact of this remoteness, — all wealth the present worth of which involves the application of the principle of time discount, — all wealth remunerated according to the dollar-time unit. Private capital is merely those private possessions which are bases of private income. This capital is productive, truly, — acquisitive, gainful, — but not necessarily so in the social sense of contributing to the general welfare or of increasing the aggregate of incomes, but only of increasing the owner's income.

We shall later have occasion to examine the relations between

saving or abstinence and the amount and the growth of capital. For present purposes, however, it is important only to understand fully in what private capital actually consists, in order thoroughly to appreciate the relation which exists between the supply of loan fund and the quantity of private capital in general, and the connection also between the supply of loan fund and the income upon private capital in general.

Collectivist capital. — For Crusoe, capital, as his store of wealth, his well-to-do-ness, his aggregate of provision for the future, would obviously include his land as well as his other equipment goods, irrespective of whether any process of saving had conditioned their existence, or whether any possible waste or improvidence or ill luck could impair or destroy them. His boat and his appliances for hunting and fishing would rank in the same class with his garden, his quarries, and his range of land for hunting. Whether his place of shelter were a cabin of his own building or a cave of his finding, in either case it would be a part of his possessions for the rendering of service with time. Whether its origin were in an earlier saving, and whether its continuance were conditioned upon continued restraint, or whether, on the contrary, it existed as both an original and an indestructible bounty of nature, would be alike irrelevant. It would be sufficient that the thing exist with its significance for continuing service. In truth, the land that always was and could not be deteriorated would be possibly the best part of his belongings.

And together with these unproduced, unearned, and indestructible items of wealth effective for service with passing time, and together also with his appliances for fishing and hunting, he would possess some small supply, however meager, of goods for amusement and pleasure and comfort. These also yield their appropriate incomes. And included within his total possessions for future service would be his store of food for the time of dearth and his supply of fuel for the season of cold. This food and this fuel would rank with land and garden plot and ax and rifle, each deriving its significance and its capital standing from its applicability to future needs.

Obviously, then, some part of the capital store of an isolated individual, and the larger part of the increase in this store, must be due to the productive efficiency either of his labor or of the natural wealth in his control. His capital would be his durable possessions. *But the amount and the rapidity of its increase,* depending in the first instance upon the quantum of product, must depend secondarily and at the final stage upon his disposition of this product — upon whether he consume it or save it. It may be, however, that some of this increase he could not consume if he would: the trees of Crusoe's island will grow and the walls of his cave will harden, all to his advantage and beyond his power of veto.

A collectivist society presents a case similar in most respects. Some part of its capital is the pure bounty of nature, and not a little of it is beyond the possibility of wear-out or waste. But, in the main, the increase will be subject to the same twofold condition of production and of appropriation to future needs. Some part of this provision for the future will embody itself in instrumental goods, some part in durable consumption goods, some part in consumable goods postponed in time of consumption. To the extent that the economy is collective it has no other way of increasing the social possessions. Social capital is durable social wealth.

Competitive increases in social capital. — In the competitive society, however, little or nothing of the foregoing holds true, excepting so far as the facts are somehow translated into a collective accounting and a balance struck in collective terms. The actual economy is characteristically an entrepreneur economy in which production and business, and the direction of them, rest with the entrepreneur in his pursuit of gain. True, some part of the activities of society and some part of the increase in social equipment are controlled by the state or the government; but just so far the society is not competitive in character, but collective. In the entrepreneur organization of things, there are important steps intervening between individual saving and social saving, either of consumption goods or of production goods.

The entrepreneur is in charge. Or, if the corporate organization is chosen, even then the first step is to get together funds, to collect a number of small capitals into an aggregate sufficiently large for the purpose. It is always with the entrepreneur function that the direction of investment lies. On the whole, therefore, the increase of industrial equipment does not take place in the same way in a competitive society as in the isolated or the collective economy. Doubtless a man in possession of property or of funds may, in the competitive society, rent out his property, for example a farm, rather than sell it; or he may himself make directly an increase of equipment goods. Just as a collective society might set aside a portion of the current social income for future use, or might apply a certain share of productive power to the creation of aids to future production, or of goods for future service, the laborers so directed subsisting meanwhile upon the current production of industry or upon stored-up products, so the individual in a competitive society may — but ordinarily does not — set himself to the direct creation of social wealth. Instead, he commonly saves "money" out of his individual income, or sells property, in either case lending his available funds to an entrepreneur or to an entrepreneur enterprise. The resulting credit is as much a part of his private wealth as was the current income or the receipts from the sale.

It does not, however, follow that his own increase in wealth is also a social increase. The buyer of the things which this capitalist sells may forthwith consume them; but this does not at all matter to the capitalist or to the amount of funds which he has for loan. So, the saving out of his individual income is not at all certain to be a saving to society in the aggregate. It suffices for his purpose and for the growth of the loan fund that somehow he has secured a certain income, and has refrained, in some measure, from making purchases in the market. The aggregate social consumption is not the less because of this "abstinence"; the other purchasers have simply profited by this diminution of demand. When he concludes — as an equivalent of his past restraint — to consume in excess of his current pro-

duction, other purchasers will suffer by the resulting extension of demand. In short, individual "abstinence," in the present industrial organization, is a condition precedent to social saving, and therefore to the possibility of social capitalization; but it is not social saving, nor is it social capitalization. The capitalist in the above case has saved himself a right to direct in purpose and manner a future application of wealth or activity. It must rest with the decision of the borrower of the capital funds — and with the lender's decision only as it affects the decision of the borrower — whether social capitalization, an increase in social equipment or durable goods, does or does not take place. Thus, while the creation of social wealth may take place without an appeal to the loan market, it does not ordinarily so take place. Obviously, it is not an easy matter to estimate the volume of the more direct and more simple form of the increase of social wealth. It suffices to say that it is relatively a diminishing method, that it calls for no especial labor of analysis, and that it is for the most part unrelated to the phenomena of the loan market — to the borrowing of *capital* and to the fixation of *interest*. Speaking in the large, wealth or capital in the social sense does not get borrowed, and, if borrowed, is not involved in the interest contract.

Thus the amount of social wealth or social capital in society is no test or measure of the supply of loan fund excepting in the degree that the individual holdings of social wealth may affect the resources of individual lenders or the credit of individual borrowers. An illustration will serve to make the principle clear: Assume an isolated community of 1000 farmers, competitively organized but still in a barter economy — that is, without money and without institutions for the circulation of credit. Suppose that 999 of these farmers have each his farm with the ordinary equipment of implements, the while that there is still another farmer with 999,000 head of cattle. Assume now that an entrepreneur from somewhere appears in the community with the purpose of constructing a railroad: how shall he go about the financing of it?

There is no capital available for his purposes. It is true that there is one wealthy man in the community, a man who would

gladly, on approved security, lend indefinite sums — of cattle. But railroad construction cannot be financed on this basis, unless, indeed, to the extent that the cattle can be made to serve as a form of currency. The difficulty is not that there is a lack of wealth in the community, but that this wealth is not in practicably lendable form.

But if, now, it be assumed that these cattle can be sold out on credit among these nine hundred and ninety-nine farmers, their notes taken and discounted into deposit credits; or even if against these farmers there are taken contracts or due bills or acceptances or orders dischargeable on demand in labor or in produce, there will forthwith exist in this society a supply of loan fund capital of a character suited to the needs of the enterprise in hand.

And if it be objected that this really amounts to the same thing as lending the cattle, only that the method is roundabout and less simple, all this must be admitted, but with the important modification that the other way is, for the purpose of the borrowing of capital, an impracticable or even an impossible method: debts must exist, that is, collectible rights in money or in other forms of wealth — for money is for many purposes only a form of credit — must exist, before these credit rights can be lent; and nothing else can practicably be lent.

And there is this still more important modification: Suppose all these cattle to have been, immediately after the sale, swept away by disease. If the debtors are still solvent, the loss is theirs and not that of the capitalist. They are in the aggregate much poorer; but he is as well off as before, and has not a jot less "capital" to lend. That is to say, the volume of loan fund in a society has no direct or necessary relation — still less, proportion — to the wealth of the society in question. It is true that if these farmers had nothing left to pay with, the debts might be uncollectible and thereby fall out of the lists of capital; but so also they might not, if only it were true that the laws of the society or its business code of morality made the debts collectible either in terms of commodities or of services. A debt that is secured by character is as good an investment and as truly private capital as any other, if only it be really as secure.

The nature and supply of loan funds. — It is thus clear that in the typical case of an appeal to the loan market for so-called capital there need be neither social capital nor social wealth in existence to which the loan fund capital traces its existence or upon which it is based or into which

it has as yet flowed. There exist against society in the form of hoarded money, or against banks in the form of bank-notes, deposits, and savings accounts, or against individuals in the form of different species of claims, rights of direction over the application of labor and commodities. Every credit represents such a right. The loan market consists of these rights and of nothing else. It is not because of her store in hand of iron or wood or provisions that England is able to supply the so-called capital for endless railroad building; and the construction of railroads in America or Africa by means of English capital does not ordinarily mean the transportation from England of any considerable amount of commodities for this purpose.

It is true that there is a theoretical outside limit to the amount of capitalization which can take place during any particular period. Only so much productive energy can be diverted to future production as can be spared from the necessities of immediate consumption. But the demands of immediate consumption are very flexible. Practically, no limit of any sort exists except the food limit; and the supply of food being mostly periodic, and, if scanty, incapable for a period of some months of being largely affected by an immediate application of labor, and not ordinarily increased above the average by the application of an exceptional amount of labor to the production of a new crop, it results for practical purposes that the amount of labor applicable to remote ends is not greatly lessened by insufficient harvests. It may, indeed, be increased by the sharp competition of wage-earners to obtain as large a share as possible of the short food supply. It is true that this view leaves out of consideration the average of years; for, in this average, as many laborers will devote themselves to the production of necessaries as find the prices of necessaries averaging high enough to make it worth while. Normally, the application of energy for future purposes must be secured from laborers not requisite to this production of necessaries for immediate consumption. But how much of this labor, possibly applicable to remote ends, will be so applied, will depend not on the possessors of capital in the form of shops, and tools, and lands, nor upon the possessors of products ready for consumption, but upon the possessors of these *choses* (claims) *en action* against society or against individual members thereof, — these rights of direction of labor, of which bank and savings deposits form a large proportion and are typical examples.

Nor, usually, does any possessor of material property or wealth become a lender of capital until he has parted with his material wealth and become a holder of some proportion of these rights. The creation of social capital is ordinarily conditioned on the transfer, in the form of loans, of these rights of direction to projectors of enterprises. It is only the loan fund that commonly is lent.

Funds and aggregate welfare. — Loans are made from such private cash resources of individuals as, not being spent, are available for lending. Through the lending of these there may or may not result an increase in the aggregate social wealth. In either case the loans remain equally private capital. If the funds go to finance administrative deficits or jingo wars, this is neither better nor worse for the investor than if they bring into existence railroads or flouring mills or chair factories. He may get even better rates of interest return by financing some spendthrift expectant heir, and need not suffer in point of security.

We may conclude, then, that the loan fund is a category of capital peculiar to itself, and that whether capital funds are or are not abundant in a given society is a matter not dependent upon the total supply of social wealth or social capital; and that whether social capitalization does or does not take place is not decided either by the amount of wealth in the society or by the amount of available loan fund, but only by the direction which the investments made through this loan fund take.

Loaned thing, repaid thing, premium thing, all currency. — Holding now firmly in mind that the loan fund form of capital is a fund of purchasing power seeking borrowers, — a fund made up of the standard commodity and of units of credit interchangeable with it, — we are in possession of all the facts fundamental to the interest problem. It is in terms of the standard that the interest contract actually runs. And note once again that not only is the interest premium one of present purchasing power in terms of the standard over future purchasing power in terms of the standard, but that, in our present society, it can hardly be anything else. It is true that in any relation of deferred payments anything — wheat, cloth, cattle, labor — might be taken as the standard in which payment should later be made, just as now rent is sometimes paid in grain. But

for most purposes there is only one practicable standard. As it is general purchasing power that is commonly borrowed, so it is commonly only in general purchasing power that payment can practically be stipulated. The business man's expenses are all reduced to terms of price and his gains, if he make any, are a differential in price. And, as we have already seen, no other computation is of the slightest moment to him, unless possibly as somehow derivative from the price gain which he is engaged in seeking. Any practicable medium of payment must be either something that the creditor can use directly or something that he can employ as purchasing power. To choose as a standard a commodity for direct use would be difficult, and to choose any other commodity is to make that commodity an intermediate of exchange for the particular case — and to accept the greater dangers of fluctuation which go with all ordinary commodities — from which dangers, indeed, money is only relatively exempt. But money is at any rate relatively exempt; and for most of the purposes of the business man the slight fluctuations to which it is subject are mostly or entirely irrelevant.

But even if money were not the best medium or standard in which loans may be made, credits extended, payments contracted, and interest computed, it would still stand as true that it is the actual medium for all of these purposes. Interest is a charge for the time-use of wealth, computed upon the dollar-time unit — a per cent, per dollar, per period.

The situation stated.— It may now be taken as established, and must be firmly grasped, that the "capital" that is borrowed is suspended purchasing power in the form of money or of credit substitutes for money; that the credit granted runs as a specific sum of money, the standard, and that the debt incurred runs as a promise to return a specific sum of money; and that capital in the credit relation is something quite different from social equipment or even from individual wealth in general. If, therefore, the term *loan fund* or some equivalent term were adopted to indicate the actual thing that is borrowed, a deal of confusion would

be avoided, and less hazy conceptions would obtain with regard to the "centers of capital" and the "increase of capital" and the "countries rich in capital." The thing loaned as capital is merely the power to buy things or to direct the application of productive energies. The abundance of loan funds is determined more by the degree of complexity in credit relations than by the existing quantity either of social or of private wealth.

The loan fund not a theoretical novelty. — Some progress has perhaps been made in the foregoing analysis toward a clear definition and a conscious recognition of the loan fund subdivision of private capital. It is now to be noted that there is, in essentials, nothing new or revolutionary in this loan fund doctrine: this is indeed not so much in need of recognition as of emphasis. The new significance of the doctrine will be rather found in the uses that are later made of it. The truth is that the literature of political economy has for decades been full of the loan-fund concept, sometimes consciously and explicitly held, sometimes tacitly and half-consciously assumed. The points of present emphasis are merely, (1) that the loan fund is distinctly and exclusively a concept belonging to the régime of individual property and competitive business, that it involves a clear recognition of the distinction between social capital and private capital, and that it is meaningless from the social point of view and is inconsistent with it, (2) that it is not private capital in general with which the capital market is concerned, but only the loan fund subdivision of private capital.

Consider, for example, the following from Ricardo:

"Capital is apportioned precisely, in the requisite abundance and no more, to the production of the different commodities which happen to be in demand. With the rise or fall of prices . . . capital is either encouraged to enter into, or is warned to depart from, the particular employment in which the variation has taken place. Whilst every man is free to employ his capital where he pleases, he will naturally seek for it that employment which is most advantageous; he will naturally be dissatisfied with a profit of 10 per cent, if by removing his capital he can obtain a profit of 15 per cent. . . . It is perhaps very difficult to trace the steps by which this change is effected: it is probably effected by a manufacturer not absolutely changing his employment, but only lessen-

ing the quantity of capital he has in that employment. In all rich countries there is a number of men forming what is called the moneyed class; these men are engaged in no trade, but live on the interest of their money, which is employed in discounting bills, or in loans to the more industrious part of the community. The bankers, too, employ large capital on the same objects. The capital so employed forms a circulating capital of a large amount, and is employed, in larger or smaller proportions, by all the different trades of the country. There is perhaps no manufacturer, however rich, who limits his business to the extent that his funds will allow; he has always some portion of this floating capital, increasing or diminishing according to the activity of the demand for his commodities. When the demand for silk increases, and that for cloth diminishes, the clothier does not remove with his capital to the silk trade; but he dismisses some of his workmen, he discontinues his demand for loans from bankers and moneyed men, while the case of the silk manufacturer is the reverse: he wishes to employ more workmen, and thus his motive for borrowing is increased; he borrows more, and thus capital is transferred from one employment to another, without the necessity of a manufacturer discontinuing his usual occupation." [1]

Bagehot, like Ricardo, oblivious of the prevailing confusion of private with social capital, declares that capital includes "two unlike sorts of commodities, coöperative things which help labor, and remunerative things which pay for it;" [2] and further, still in full conformity with Ricardo, remarks:

"Suppose the corn trade to become particularly good, there are immediately twice the usual number of corn bills in the bill brokers' cases; and if of the iron trades, then of iron bills. You could almost see the change of capital if you could look into the bill cases at different times." [3]

But note that Bagehot does not make it altogether clear whose is the capital that is changing; but it is perhaps fairly to be assumed that he takes it to be the capital of the lenders.

Cairnes's statement upon this point is hardly more satisfactory; but the loan fund variety of capital receives equally distinct recognition:

[1] Ricardo, *Political Economy*, Gonner's edition, Chap. IV, Sec. 29.
[2] *Economic Studies*, 2d ed., p. 55.
[3] Bagehot, *op. cit.*, p. 45.

"The existence of a large amount of capital in commercial countries in disposable form, or, to speak less equivocally, in the form of money or other purchasing power, capable of being turned to any purpose required, is a patent and undeniable fact. Nor is it less certain that this capital is constantly seeking the best investments, and rapidly moves towards any branch of industry that happens at the moment to offer special attractions."[1, 2]

Whence come these sums that Ricardo's manufacturer is borrowing from the moneyed class? It is a commonplace that capital comes from saving; and it is unfortunately almost as much of a commonplace that savings are *in the same sense* capital. But, as we have seen, private saving is merely the individual postponement of the consumable services of private wealth; the people who save, the people whose steady streams of contribution flow into the loan market, are ordinarily merely receivers of income, who, having held their expenditures below their receipts, have something to lend. Their decision to postpone their personal exercise of their rights of consumption is carried into effect, either by the method of holding their purchasing power in hand in the form of money, or by transferring this power to other persons by some direct or indirect method of loan. The borrower, whether for purposes of consumption or for purposes of production, desires to obtain disposal over this purchasing power. It is only as a question of security that it at all matters to the lender whether consumption goods or raw material or machinery or labor be the purchased fact.

Loan contracts *versus* rental contracts. — But why do lending and borrowing actually take place in terms of money loans and under the interest contract rather than in terms of the loan of things under the renting contract (bailment)? In some part this is doubtless due to the difficulty of determining precisely, and of estimating accurately, the condition of the goods when rented, and in formu-

[1] Cairnes, *Leading Principles*, p. 63.

[2] "Every one is aware that England has much more immediately disposable and ready cash than any other country. But very few persons are aware how much greater the ready balance — the floating loan fund, which can be lent to any one for any purpose — is in England than it is anywhere else in the world. A very few figures will show how large the London loan fund is, and how much greater it is than any other. The known deposits — the deposits of banks which publish their accounts — are: in London (December 31, 1872), £120,000,000; in Paris (February 27, 1873), £13,000,000; in New York (February, 1873), £40,000,000; in German Empire (January 31, 1873), £8,000,000; and the un-

lating a contract adapted to fixing the treatment which the rented good shall receive from the borrower or the condition in which it shall be returned; or, again, of determining accurately how far the contract has fallen short of fulfillment. In even larger degree the preference for the contract for the loan of money and the payment of interest is to be explained by that lack of coincidence of demands which has already been examined with reference to barter. The manufacturing entrepreneur or the railroad contractor wants ordinarily something else than the precise goods which the lender can deliver. Money will precisely serve the need when nothing else will. It is as a commodity of general acceptability that money most easily finds lenders and borrowers.

Failures in coincidence. — But more commonly the difficulty is of still another sort: if A has for rent or for sale the thing which B wants to borrow or buy, and B has in hand or in prospect the thing desired by A in which to make or to promise payment, and if, in addition, A and B chance to come together, a failure in the coincidence of desires is still likely; the credit of B may not be sufficiently well known to A, or may be otherwise unsatisfactory. So, without some credit intermediary or guarantor, the contract may not close.

For many reasons, then, the practicable method for the entrepreneur is to buy rather than to rent, even where the subject matter of the relation might make renting possible. The competitions of entrepreneurs center in the borrowing of funds with which to carry on business operations in general, inclusive of the buying of things.

Funds both from savings and banking. — Whence, then, come these funds that are borrowed? Unquestionably some of them come from those who prefer to invest rather than to spend. In this sense, as we shall later more fully see, there is a savings contribution to the supply of funds. But in any case, such funds as are saved are likely to be deposited with commercial

known deposits — deposits in banks which do not publish their accounts — are in London much greater than those in any other of these cities. The bankers' deposits of London are many times greater than those of any other country." — BAGEHOT, *Lombard Street*, Chap. I, p. 4.

A well-informed estimate in 1895 placed the bank deposits of Great Britain at £700,000,000. In the United States at present (1913) the deposit liabilities of the national banks alone run upwards of six billions of dollars.

banks or savings banks or insurance companies, — intermediate credit institutions acting in such cases as guarantors or underwriters of debts. Borrowers, in turn, mostly apply to credit institutions for credit accommodation.

But the function of the banks is much more largely in supplying funds of their own creation than as acting as the lenders of the funds of others. It is clear that banks create currency by issuing credit, and that not merely is this function of issue — this creation of exchange media — a bringing into existence of currency available for the purposes of the borrowers, but also that, like other currency, it passes from hand to hand as purchasing power and as means of payment. It may well be true — it will, indeed, later be emphasized — that in ultimate effect the banker, in the ordinary discount relation, is a guarantor of the borrower's credit; but it suffices for the immediate need to point out that the result of bank lending is to expand the quantity of circulating medium, the currency available for loans. When the bank lends $1000 to a customer, or discounts $1000 of paper offered by him, it really gives its own promise to pay $1000 on demand in exchange for a time promise given to it by him to pay an approximately equal sum. The outcome of this exchange of promises is an enlargement of the supply of media of exchange. The credit granted becomes forthwith a circulating credit, as efficient as actual money for the processes of exchange. The methods peculiar to banking enable one dollar of reserves to support several dollars of credit media appropriate to the loan fund service. The supply of this loan fund form of capital is thus more largely a question of the organization of banking and of the degree of banking activity than a question of the wealth of society. Banks are the principal creators and the principal custodians of loan fund capital. Thus the banking centers are the great capital centers. Easy banking conditions mean easy funds. If loanable capital were the expression of the wealth of society or of its possessions of social capital, it would be impossible to explain the fact that in the last fifteen years the deposits of the national banks alone in the United States have increased from 2 billions of dollars to $6\frac{1}{2}$ billions.

These funds may, a few years hence, be half as great or, possibly, twice as great, without implying any slightest corresponding change in the total volume of existing social wealth. Bank funds do, in fact, change greatly from season to season; but there is no reason to suspect that concrete capital is undergoing any similar change in volume. In fact, also, the loans of banks are sought and granted in large part for the financing of production which is later to take place. The deposit credits derived from these loans expand and contract in conformity with the volume of forthcoming product rather than with the volume of existing wealth.

It must no doubt be admitted — it is, indeed, to be asserted and emphasized — that the banks do sometimes expand and sometimes contract the volume of circulating media. If, then, it be objected that there is nothing in their activity which tends to increase the supply of present wealth for sale against future wealth — that because the banks do not affect the volume of social wealth, their extensions of credit must be merely a redistribution of purchasing power in society and not an increase either of it or of the goods to be purchased with it — that the working of their expansions of currency must in the long run be effective, not to change the total volume of purchasing power in society, but only to change the volume of units, and therefore the purchasing power of each unit, the final effect being solely upon the level of prices rather than upon the rate of interest — all this may readily be admitted without menace to the argument. It remains true that the activity of the banks in modifying the supply of loan fund is always a controlling influence in fixing or in modifying the interest rate of any particular time.[1]

[1] *Banking and Interest.*

The long-time effects of banking upon the interest rate are not a part of the present problem, but are nevertheless questions both of great importance and of great difficulty. Why should not the effect of the expansion of currency by the bankers be precisely the same as the effect of any other inflation of the currency, viz. (1) easier loans and lower discount rates, followed by (2) rising prices and stimulated demand from borrowers, necessitating (3) a recovery in discount rates possibly extending even

We have seen that the thing loaned in the interest relation is money, or other purchasing power interchangeable with money; that interest is a premium for present dollars over future dollars; that the problem of the fixation of the rate is merely one more problem in the mechanics of price fixation — the only aspect in which the interest problem is peculiar being

beyond the original level, and resulting finally in (4) the old level of interest at a higher level of prices.

There appear, however, to be differences between the working of credit expansion and of money expansion. Credit expansion, initiated by the banks themselves rather than by the original stimulus of expanding supplies of reserves, takes place only on terms of an increasing pressure upon the banking reserves and on terms or a tendency toward progressively higher discount rates for these bankers' services in the underwriting of credit. In other words, the increase in the current circulating medium, as more and more future paying power is being transferred by the banks into present and current paying power, takes place on terms of the increasing resistance of hardening bank rates — higher premiums for present funds as against future funds. The funds derived from these discount transactions function as currency to be loaned by the bank depositor or to be used in the purchase of goods. Prices tend to rise, to be sure, but only under the increasing opposition of higher interest rates. The loan fund is expanding, but is expanding as a result of a process which carries with it higher interest charges.

It must be admitted, however, that the foregoing may well be a faulty analysis. The precise relations of banking to the long-time average of interest rates, and therewith to the long-time average of prices, are problems of infinite difficulty and perplexity. Of only so much as this — which is enough for the present purpose — is the present writer confident: that the problem of the supply of loan fund and of the interest rates paid for loans is, for any given time and situation, rather a banking problem, a question of the volume of circulating medium and the uses for which it is offered, than a question of the aggregate wealth of society, of the source or nature of it, or of the abstinences conditioning the existence of any part of it. Long-time equilibria are no part of the problem of the current supply of funds or of the current interest rates.

Likewise it cannot greatly matter whether the following analysis of the relations between banking and the long-time levels of interest is or is not accurate; it is merely offered by the way as the best that the present writer can at present accomplish:

the fact that the equating point between the demand and supply schedules is a rate per cent; that therefore the analysis of interest leads back to an examination of the precise thing that is lent for interest and to an examination of the influences lying behind the demand for it and the supply of it; that the supply of loan fund is merely the supply of present purchasing power available for lending; that this loan fund is there-

Banking is essentially an underwriting of credit. The customer of the bank becomes a debtor to it in order to obtain with it an immediate credit which he can use as current buying or paying power. He exchanges obligations with the bank. He owes it in order that he may be able, by assigning his right against it, to be the debtor of it rather than a debtor to another — to substitute it as debtor for himself as debtor. Essentially the bank takes his liability upon itself on terms of his becoming separately liable to it. In point of form, doubtless, the bank does not precisely become his surety or make itself a guarantor of his promise, but essentially it does exactly this; it assumes his debts on terms of his becoming indebted to it. Thus he ceases to pay interest to other creditors and pays interest to the bank instead as his creditor. It has intimate knowledge of his business affairs and accepts the risk of his solvency — a risk which others will either not accept at all, or will accept on less favorable terms.

And incidentally the bank does more than this: it transforms the future paying power of its customer into present current paying power. This is the function of reserves. Based upon these it is able to promise that it will pay actual money in those exceptional cases where actual money is called for. For each dollar of bank reserves the banks are able to transform, say, $4 of customers' probable future paying power into an equal sum of effective present paying power.

But note that these reserves do not mean that the bank expects to pay in money or will have to pay, but only that it will be ready if it be called upon. Ordinarily it is not so called upon. Actually most of its obligations represented in its deposit liability, and the average of these, are long-time obligations. Commonly they come be canceled neither earlier nor later in money, but only by the debtor presenting them to be set off against his note for the canceling of it.

In substance, then, the discount charge of the bank is an insurance premium for the danger of loss which it accepts in substituting itself as debtor in place of the borrower and in undertaking, if necessary, to pay on demand in his stead. If his obligation to it is also to pay on demand, the premium rate is likely to be a low one. If he is privileged to delay, the while that the bank

fore made up exclusively of rights of purchase — rights of control or direction of men and of wealth; that its existence implies nothing as to its origin or as to the manner or method of its acquirement; that as the banks create it by the exercise of their guarantee function, so other men may extort or steal it; or it may arise through the legislative gift to one man of enforceable rights against other men; or the possessor may have obtained it by ruse or guile — it mattering for the purpose only that it exists and is transferable to borrowers; that the loan fund, as made up of income-earning possessions, is capital, but a peculiar kind of capital, one among many varieties, and entirely distinct from durable production or durable consumption goods or from the raw materials of in-

takes the risk of not being permitted to delay, the premium is higher.

It being, then, established that the discount rates of banks are a compound of (1) risk charges against possible bad loans (specific mortality hazards), (2) overhead and general charges for the risks of stress or crisis (conflagration or epidemic hazards), (3) charges for the cost of maintaining reserves and for the general expenses of administration (expense loading) — it should follow that banking can have no very important bearing *on the long-time level* of interest rates. The banks serve as mere intermediaries between the debtor class and the creditor class. As incidental to their function of suretyship — of the underwriting of credit — they provide a circulating medium and thereby affect the general level of prices. In the long run their activity will mostly exhaust itself in this modification of prices.

Some effect, however, there is in banking to lower the interest rate — the gross rate, the rate inclusive of the risk charge. This effect is, indeed, implied in the very nature of the banking function, the underwriting of credit risks. That the performance of the intermediate function makes possible a larger number of credit relations through bringing together more lenders and borrowers, does not involve the necessity of a change in the rates of interest paid. It is in the diminishing costs of the carrying of the credit risks that the banks are able to make the interest rate lower. Gains in the business of insuring credits arise by the fact that the insurer is able to carry risks more cheaply than the individual lender can carry them. The gain is a differential between the cost of the risk and the market compensation allowed for carrying it. Only in respect, then, of diminishing the risk element of the rate — but very clearly in this respect — has banking any influence to lower the long-time market rates for loans.

dustry — a kind of capital also that has no direct dependence on the supply of production goods or of other concrete wealth in society, or even any necessary relation to any of them; but that this loan-fund subdivision of capital is the only capital known to the distinctly financial world, the thing that is lent and borrowed in the capital markets, and the thing which, in getting transferred from lender to borrower, fixes the rate, or rates, of interest with which the business world is familiar; and that the main business of banking is in the creating or the lending of it.

Devoting itself especially to an examination of interest theory, the next chapter will make clear that abstinence can be offered as an explanation for interest only in the sense of pointing to the conditions on which a part of the supply of income available for future uses depends; that, as an ethical justification for interest, abstinence is unimportant, and even irrelevant; that no matter from what source or by what method the incomes may have been gained, the question of abstinence has solely to do with what present disposition shall be made of the incomes; that abstinence is in no case a fact of pain; and that even if in all cases, or in any, it were a pain, the abstinences of different men could not be reduced to any common denominator of pain, with the units of which the units of interest income could be made proportional.

It will also appear that, since the interest contract is always a contract for the deferred payment of money, interest must express the market rates of premium for the present funds offered by lenders over the future funds promised by borrowers; that all influences — banking as well as abstinence — increasing or limiting the supply of funds for loan must be considered on the supply side of the case; that all the various opportunities and inducements to borrowing must be considered on the demand side — agriculture, manufacturing, merchandising, speculation, wise consumption loans, unwise consumption loans, the purchase or hiring of long-time production or of long-time consumption goods, the financing of enterprises of predation or of other harm, as well as enterprises of social service — adulterated goods equally with wholesome products, scandal equally with news, cut-throat competition equally with wholesome rivalry, purchased legislative favor equally with up-to-date equipment.

Every prospect of gain from borrowed funds affords an incentive for borrowing them. Incidentally the social-organism method of explaining interest rates will come in for some discussion; so also of the relation of existing valuable properties to the demand for funds.

CHAPTER XIX

THE LOAN RATE: INTEREST

Production, exchange, and currency. — In view of the work that is done in the home by members of the family, and of the products that are directly consumed by the producers of them, it will not do to assert that all goods in the present society are produced for sale, but only that, in the competitive order, production for sale is the characteristic fact of that order and the fact about which most economic problems center. More and more the baking, the laundering, and the making of fabrics and garments are coming to be done outside the household. The field of exchange and of production for exchange grows constantly wider. The modern economy is prevailingly the exchange economy.

Incomes, a monetary (currency) movement. — It is obvious that an exchange economy means that each individual is producing some commodity, or performing some present service, or contriving some scheme or project, by which money (more accurately, currency) shall be obtained by him, to the end that in turn, he may have it to pay out in the furthering of his purposes. Thus for each individual and for individuals in the aggregate it is possible to regard the economic process as one of a constant circulation of money — all incomes arriving in money terms and all expenditure of income taking place in money terms. While each individual is doing that thing which will best gain him money, and gains the money by doing that thing, it is still true that what thing will best gain him money depends on what the possessors of money are disposed to pay him for. This statement is merely another way of saying that it is everywhere demand that gives direction to supply. Each individual does what another will give up money for. Each

recipient of money is in turn in position to determine what some one else shall do or how he shall employ his possessions.

Loans a temporary modification of the money flow. — The usual process of lending is, then, merely one of subtracting from one man's store of cash resources and of adding to the store of another. This substitution of control may, it is true, take place through the transfer of some item of property controlling a stream of money income or exempting the holder from the necessity of paying out money. In other words, the renting contract is always possible. More commonly, however, the transfer is a transfer of money or of other purchasing power as substitute for money. Such cases present the deferred payment relation and the interest contract. The interest problem, therefore, is the problem of explaining the terms of price payment, the rate per dollar per period, on which these transfers of purchasing power are made.

Interest paid to modify the money flow. — Such payments are evidently made for the privilege of earlier as against later command of purchasing power — some of them with the purpose of buying or hiring instrumental goods or franchises or patents, or of obtaining raw materials in the productive process; others for speculative operations; others for the purchase of long-time consumption goods; others, again, for the purchase of immediate consumption goods; still others for the discharge of accruing money obligations. But in any case interest is the payment for the right to have or to use earlier rather than later.

Sources of circulating media: Rates and prices. — From whom shall these rights be obtained? Obviously from those who have them — from the saver rather than from the spender, but equally obviously from those who can create them at will — the bankers — and from those who, through the bankers, are able to transform a prospective paying power into a present paying or purchasing power. For note that this circulation of purchasing power which we have just analyzed, and the transferring of it in loans, must take account of the fact that, through the bankers, contributing streams of purchasing power are being injected into the gen-

eral circulation of currency, and that these banking contributions vary greatly in volume with different times, and vary also in the charges on which they are to be had. Sometimes, that is, prospective paying power functions as a greater and sometimes as a smaller share in the total of present paying power, — circulating media, currency. When the banks are creating currency generously for their customers, money is easy, the loan fund ample, and prices are rising or making ready to rise. When the banks are niggardly of credit accommodations, interest rates advance with the short supplies of banking currency and of exchange media generally. Acute contractions of banking credit so far restrict the offer of prospective income as immediate purchasing power, and so far reduce the fund of deposit credits, and so far raise the rates upon loan capital as to force many holders of property to make choice between selling at great sacrifice and holding at continuing loss, as to compel debtors to renew their obligations, if they can, on increasingly burdensome terms, and as to subject many business men to the necessity of seeking accommodation at whatever rates they can get it in the frantic attempt to escape insolvency.

Classical abstinence. — In view of the foregoing, the attempt of the classical economists to explain the supply of loanable capital as dependent solely upon the abstinence of lenders, and to interpret interest as a rate of return fixed as the equating point between the pains of saving, on the side of supply, and the gain or advantage of borrowers, on the side of demand, falls little short of the grotesque. Still greater is the absurdity when the demand for funds is interpreted to indicate or measure the social productivity of capital.

There is, however, truth in the abstinence theory of interest only that it is but a part of the truth, and is at the same time an exceedingly unfortunate way of expressing that part. Men who have purchasing power in hand are evidently able to spend it or to invest it. If they lend it to others, they get pay for the lending — for foregoing or displacing some alternative employment, whether in spending or investing. If this is all there is in the abstinence theory of interest,

it is so far axiomatic. And equally beyond question is it that the degree in which receivers of income are content to forego the spending of it has something to say as to the amount of current income which is available for purposes of lending — only that it has not everything to say.

Such truth, then, as there is in the *waiting* or *abstinence* theory of interest rests merely in the obvious fact that whoever has present wealth or present income has his choice between using it for purposes of immediate consumption, *spending* it, and applying it in one way or another to future uses, *investing* it. In order to hold these alternatives clearly in mind and to avoid the misleading connotations, *spending* and *investing* will be understood as contrasted terms. Spending means using for immediate needs. Investing must, therefore, include all outlays for durable production goods, *e.g.*, farm machinery, and for all business outlays in general, and all outlays for durable consumption goods, *e.g.*, houses, pianos, and automobiles, and as well all cases of lending. To retain a property which one already has, rather than to sell it and spend the proceeds, is a choice in favor of the investment alternative.

Origins — labor or abstinence — irrelevant. — It is, then, clear that this decision whether to spend or to invest has nothing to do with the origin of the property. Much of the existing capital, social as well as private, never had any labor or expense as the condition to its existence. Lands, waterfalls, and all forms of natural bounty do not owe their origin to human effort. Equally obvious is it that much capital does not owe its continued existence to any sort of saving or providence or abstinence. No one can either produce or consume the waterfalls or the water fronts, or the city lots. Still other capital that is purely private, *e.g.*, patents and franchises, as they need not have been conditioned in origin upon labor or expense, are not conditioned upon any restraint or saving or abstinence for their continuance. Labor as explanation of the origin of capital and abstinence as explanation of its continued existence are equally inadequate doctrines. Waiting which took place in the past has nothing to do with the present situation

excepting in so far as this waiting may or may not explain what there is now in existence to save or to spend. In point of fact, also, any particular holder of any particular item of income or of capital may have obtained it by gift, by inheritance, by legislative grant, by speculation, by theft, or even by highway robbery. Some of this capital, indeed, legislative favor may have created *de novo*, *e.g.*, tariff privileges, franchises, patents, monopolies. It being, however, entirely clear that the origins of income and of capital have little to do with the rates of interest that are to be had for them, it cannot greatly matter whether there is much or little truth in the labor theory of the origin of capital or in the abstinence theory of the maintenance of capital. Not where things came from but what can be had for them is the interest problem.

Thus it is clear that there is some capital that was never produced by human labor, that could never have been destroyed by the waste or consumption of human beings, that does not now depend for its maintenance on the restraint or foresight of anybody; and that there is always a large volume of capital funds for loan that are created by banking activity as a present derivative from expected future paying power. Abstinence, therefore, as explaining the supply of funds for loan can mean no more than the obvious fact that whoever lends abstains from making some alternative use, that whoever has money might spend it, that whoever has lands might sell them or might cultivate them himself.

But abstinence is a reality. — It is, however, still true that some part of the funds for loan in society is due to the choice of the possessor to invest them rather than to spend them, and that some part of the increase in the supply of loan fund is conditioned on the fact of saving. The overcoming of the disposition to spend is necessary to some of the saving; some waiting takes place as induced by the pay which can be had for it. Clearly, then, there is truth in the abstinence theory of interest, only, be it repeated, it is not the whole truth.

How far waiting is burdensome. — It is, however, commonly asserted that always with human beings there is a disposition to spend rather than to hold — an indisposition to save, to wait, to

postpone the expenditure of income, to forego present consumption in favor of future consumption.

This dislike of waiting, this protest at abstinence, this impatience fact, is commonly presented as the ultimate explanation for the limited supply of capital for loan, for the necessity of paying a premium of the present over the future if capital is to be borrowed. And it is evident that the indisposition to wait, the pressure for present enjoyment, the impatience of delay, is a commonplace fact in human life. One dislikes to wait about, after the appointed time, for some careless friend to fulfill his engagement; accurately, however, is this really the dislike of delay or the desire to do something else? But at any rate there are many men who are spendthrift of present resources in their disregard of the claims of the future — in their overemphasis upon the present end, or in their over-response to the present desire. Are we not all of us a little so? Children cry at having to wait for their cake till the next meal, when they will he hungrier. Savages are prone to feast wastefully to-day, careless of the probable or certain dearth of a fortnight hence. In varying degree, are we not all like this?

So it is commonly thought and said — especially by economists. And surely many men are grossly improvident of health and welfare as well as of income. The far-off need, the remote dyspepsia, the possible nervous breakdown, the probable rheumatism, the certain remorse, or even the untimely death — all of us are prone, some of the time, to forget. The future fact we are not likely to appreciate adequately, to see clearly, to face fully.

Doubtless this is more or less true with all races and grades of men. And yet what does it mean that so many men are so keen to die rich, that so many others are founding rich families, that there is so much provision against old age, so many of us hag-ridden in our fear of want or possible penury or dependence? Why all this piling up of wealth? Is there not also with us the squirrel urge toward the hoard of nuts, the ant-like instinct of preparation against the November winds? Have not all of us — or almost all — a joy in the mere fact of present provision, a substantive pleasure in looking forward to the time of enjoyment, a capacity for experiencing those pleasures of hope the enchantment of which distance rather magnifies than diminishes? Who knows, after all, that our care for old age or our solicitude for the rainy day, the parental love for offspring and descendants, the human interest in the future of the race, the recognized privilege and accepted duty of conserving the public resources may not in the large average outweigh the impulse to present enjoyment? Is it

certain that less saving would go on were there no interest rate? Might not the present premium against future need or future contingencies in general be all the greater if the earning power of a given fund were less?

The issue at its simplest. — To isolate this problem and to place it clearly before us, recourse must be had to a more or less heroic abstraction: Suppose a competitive society in which the only productive fact were labor — all lands equally good and plenty of them, no use made of implements or of durable consumption goods, no occasion for seed or fertilizers, the wild beasts caught by running them down, the fish scooped up in the hands. There would still exist exchange relations among products — there might even be money — but there would not need be any premium in favor of present goods or present purchasing power as over against future goods or future purchasing power. There might or there might not be this premium, according to the prevailing psychology with regard to provision for the future. Even a negative interest — a charge for keeping, a premium on the future — might attach. The perspective of time alone does not, then, for all kinds and conditions of men, guarantee an interest rate. Nor is our knowledge of present humanity sufficient to warrant us in any opinion about our own particular race or society in this regard.

Abstinence in the pain interpretation. — Something, then, is the matter with the notion that interest finds its explanation in the pains of abstinence generally, or in the pains of marginal abstinence.

As a matter of fact, abstinence is not necessarily or always a pain at all. For some people the pleasures of expectation are a reality; and there are, for misers at least, some keen pleasures of having and keeping. And in the very common case in which money gives a choice between two gratifications, one present and the other future, it would be a waste of sympathy to count as pain the fact that the greater pleasure lies in the future. The truth obviously is that to choose between two present gratifications does not fall within the pain calculus: and to find in the remoter of the two the larger pleasure or service introduces no new element of pain. Nor is the going without the gain of using your tools or machinery for a year, in order to rent them, a fact of pain. At the most, it is a foregone pleasure. Rental incomes from land are, at all events, not based on pains. We waste no tears over the piteous case either of the landed class or of the coupon cutters.

Nor, in truth, where the individual is in possession of sufficient money to buy him a meal, but decides to save his money and to

lend it, is the *abstinence* a pain. It is only the *hunger* that is pain. A man having the hunger but no money has unquestionably one pain and no more, that of hunger. So much is clear. If now we take this man to have both the hunger and the money, he has not now two pains, one of hunger and one of abstinence, but only the one original pain of hunger. His is, indeed, the fortunate case of one who need have no pain at all if only he would let go of his money. Perhaps to lose his money would be painful, but only in the sense that it would involve the continuance of the pain of hunger. But to lend the money is not a pain, and the only pain in the case is that gnawing at his vitals that he has declined to still. To keep your money when you are hungry is clearly not a pain, but only being hungry. Were this not the truth, the case of one having both the hunger and the money would be the especially grievous case; alms given to the beggar would carry with them the least pain when given just before meal-time; the rich who could spend, but do not, would be the unfortunates of the world; the last word of economic philosophy would run, " Blessed be nothing."

The truth certainly is that the man with the hunger and the dollar, who now stills his present hunger, will shortly get hungry again. The dollar is merely his permit to choose between two pains — or two pleasures — one present and one future. If he had no dollar, he would have to bear both pains or go without both pleasures. There is nothing especially touching, then, in the fact that he has the dollar, and that, in spending it now or later, he has to forego an alternative spending. It appears, then, that not only the necessity of a choice between pleasures is not a pain, but also, and with equal certainty, that the necessity of a choice between pains is not a pain.

The abstinence doctrine, rightly interpreted, a truism. — The doctrine, however, which asserts merely that the growth of the loan fund is dependent *in part* upon the disposition of possessors of resources to retain them for future needs rather than to spend them for immediate needs is true — to the extent of being a truism. And it is true also that the amount of income saved will in part depend upon the degree of pressure from present need. All investment is a foregoing of a present opportunity for consumption. If one has present money (currency), he may (1) spend, (2) hold for later spending, (3) buy durable production goods for his own use, (4) or for lending to some one else, (5) buy durable consumption

goods for his own use, (6) or for lending to some else, or (7) lend the money to some one else to be applied in any of the foregoing six ways. The supply of loan fund at any given time must obviously be somewhat affected by the way in which the possessors of immediate purchasing power are disposed to use it. All later services are conditioned on the displacement of earlier services. When one stores ice against the summer's heat, or wood against the winter's cold, or food against the foodless season, or wages against the weeks of sickness or the feebleness of age, the fact may well be — and commonly is — that the future need outranks the present need, pound against pound, or bushel against bushel, or dollar against dollar, without reference to any increase in the objective goods with lapse of time. There is no abstinence or burden in the case in any other sense than that either application must displace the other. The line between consuming and saving (spending and investing) is drawn at the point of equality between two opposing attractions. For each individual, consumption (spending) stops and saving (investment) begins, whether in long-time consumption goods or in production goods or in other directions, where the advantages from saving, whatever these advantages may be, make an appeal strong enough to displace present consumption. The choice must always lie between postponed services and present services, one thing as against the other thing, the future against the present. Abstinence *in this sense* there must always be, wherever there exists a sum of present power to be allotted in either of two directions — some recognized future need outranking any present need. If one does not spend, he must invest in one way or another. But there is no necessity of pain anywhere in the case. And if there is pain, it is the pain which goes with the fact that a present want remains unappeased and not in the pain of provision against some future want. Abstinence, then, there always is behind every item of loan fund, so far as it is true that the loan fund really depends upon saving. But with that part of the loan fund created by banks there is no room for any antecedent saving. The customer of the bank has no present purchasing power until the bank intervenes in his

behalf and renders his future paying power over into present currency.

Individual saving. — The simpler aspects of the savings problem are easily analyzed. Assume, for example, that the income of a particular individual in actual society depends upon dividends derived from an earlier investment in stocks, and that no personal productivity enters into the problem. In this case the line between present and deferred service is easy to draw for the ideally reasonable man, though hard to draw for any actual man. Nevertheless, it must in any case be somehow drawn, and will be drawn at the margin where present needs and future needs are at equal appreciation in the present comparison.

Prospective changes in income. — If, however, allowance must be made for an expected change in the dividends, the margin must somewhat shift. If the next year's return is likely to be scant, some portion of this year's funds will reasonably be held over to the next year. It would, in such case, be admissible to lend, if necessary, some of this year's funds without interest, or even at some loss in the principal sum. A low interest rate, or even a negative rate, might be accepted. In view of the prospective scant supply, and thus of the changing relation of the objective goods to the individual's desire — in view, that is, of the rising utility of funds with passing time — the subjective phenomena of interest are all present. In the mere fact of a relative future scarcity, there is interest sufficient to dispense with the necessity of any objective increase in the fund. If, however, the next year's income promises to be relatively abundant, the exchange relations of present funds against future funds will be greatly in favor of the present; a high interest rate on borrowed funds would readily be paid — perhaps 200 of that time for 100 of the present time. Rationally, all depends on the relative provisionment. Actually, in any case, the line will be drawn where the present appreciation of the future good makes equal appeal with the present good.

Uncertainty of later income. — And evidently the larger the uncertainty as to the amount of the next year's dividend,

or the greater the doubt whether there will be any dividend at all, the stronger is the influence to limit the consumption in the present and thus to lower the rate of premium at which the individual will consent to exchange present funds against future funds.

Changing needs. — So far, the analysis has taken the individual's aggregate of needs to be practically constant. If, however, while the income is stable, the needs of the future promise to be relatively great, *e.g.*, by sickness, or more children, or old age, the demand of the present will weaken relatively, provision for the future will tend to be more generous, and lending will be considered at a lower rate of interest premium. On the other hand, any especial urgency of present needs relatively to future needs will call for high rates, if the individual is to lend, or will justify high rates of payment if the individual is to borrow.

Personal earning power: changes. — But it is with the introduction of personal earning power and of changes in this earning power, taken in connection with the introduction of the changing earning power of the individual's possessions, that the analysis becomes especially complicated.

The difficulties are, however, not great when allowance is to be made solely for the existence of personal earning power, or for changes in this earning power, or for changes in the stress and strain and pain of putting it forth. Other things remaining equal, the prospect of increasing earning power will lower the necessity of provision for the future out of the present, will allow a larger immediate consumption of present product, will make higher the rate of premium if the individual is to lend, and will make higher the premium that he will offer if he is disposed to borrow — that is, will raise the interest rate, the premium of present over future. The prospect of a diminishing personal earning power, other things remaining equal, will reverse all this: saving will be more urgent, lending more attractive, minimum interest terms lower.

The marginal adjustment. — How far, then, in the actually existing competitive society, shall any one man — say Mr.

Rockefeller — direct his wealth to present consumption, and how far allot it to future uses? It is not to the purpose to point out that Mr. Rockefeller could not possibly consume all his wealth, or even the income from all of it — that, as to the larger share of it, no sacrifice can be involved in the postponed use. There is still some part of his wealth, however small, that he can consume if he will, and can refrain from consuming if he choose. With him, as with other men, there is a line of choice, a margin, at which present use and future use are of equal attractiveness. He may spend dollars or millions; but he could spend more or less accordingly as he appraises the relative attractiveness of the alternative applications of his wealth. There are gifts to be made now and gifts to be made in the future. Within his field of solicitude are the existing Rockefellers and other existing needy human beings, and there will be further generations of Rockefellers as well as of the future race at large. There is, then, for him a margin of displacement between present uses and future uses. In this sense, but in no sense of pain, he has a marginal "abstinence" which is the point of limitation upon his saving.

Factors in the adjustment. — But now note that there are open to him three different lines of saving: (1) durable consumption goods, — houses, yachts, parks, pianos, tennis rackets; (2) gain-rendering goods, — securities, factories, refineries, railroads, mines, etc.; (3) loans to other men who have, like him, their individual choices between present and future uses and the same three different directions of future use. Rationally, Mr. Rockefeller's whole store of present wealth, as an aggregate supply, must be apportioned among these four demands — the demand for present consumption being included — according to the principle of maximum utility, no one use being permitted to displace a more important use.

The aggregate loan supply. — It is evident, then, that, so far as the loan fund at any given time is made up from diverting present income to providing income for future needs, there is for each different man an abstinence limitation upon the funds that he allots to future uses. And equally evident is it that at any particular

time there is a limit to the supply of immediate funds derivative from the future paying power which the bankers, through their guarantee function, are making effective as present paying power. This limit is a cost limit — the indemnity necessary to enlist the activity of the bankers in assuming not only the risks of the process, but also the expense of providing reserves and, in addition, the charges for administrative expense.

Equally evident is it that the share of funds which any individual refrains from spending and sets aside for investment will depend in part upon the rate of the advantage in prospect. The point of indifference between spending and investing is a different point with every change in resources, in present needs, in prospective needs, and in the rate of gain which may be secured from investment. So, again, the volume of funds which the different banks will create will depend in part upon the compensations which are offered them for extending their activities of guarantee. There is, therefore, no such thing as explaining the supply of investment funds unless with constant reference to the rate of return that is open. In other words, the rate of interest upon any particular class of funds is not determined by the abstinence rates of the investors, or by the cost rates of the bankers, but is merely the point of equation between the costs of supply and the gains of demand. Nowhere, indeed, either in the interest problem or elsewhere, is the market adjustment dependent solely on the supply side of the market equation. Nor would especial emphasis upon this point be necessary in the interest analysis, were it not true that interest is often interpreted as fixed by the degree of protest against abstinence, as purely a matter of the relative emphasis on present consumption as against future consumption. The truth is that the supply of funds is not exclusively determined by the abstinence principle, and that even were the supply so determined, the returns upon investment would have much to say as to the extent to which present consumption would be limited. So far as savings are the source of loan fund, there must be recognized for each individual his own particular marginal abstinence, a final item of supply at which the attractions of spending and of saving are equated. Every man is, for some of his saving, a marginal saver — has, that is to say, a marginal abstinence. But where this margin is drawn is as much a question of the advantages to be derived from saving as it is a question of the pressure of present need.[1]

[1] The foregoing statement holds good even though it be true that, on the side of provision for future income, falling interest

Savings, gain and interest rates. — What is, in fact, the precise bearing of the individual's opportunity to employ gainfully his wealth with passing time — to reap an increment with the time-use? The very terms of the problem imply a diminished share of present money income allotted to present spending, and a more than corresponding increase in the prospective future supply. How far, then, does the productivity of wealth in time affect the interest rate?

Obviously, the interest rate must be affected. The increment can be had only on terms of restricting somewhat the present consumption. This restriction raises for him the marginal utility of the present wealth or of the present purchasing power. On the other hand, the promised increase in future provisionment diminishes the marginal utility of future wealth or of future purchasing power. Put into terms of the familiar categories, this promise of increment with passing time is an increase in the demand for present funds, to be followed by an increase in the supply of future income. Gainful uses play, then, a distinct and important rôle in the making up of the total demand for present wealth. In its bearing upon the present need, the gainful use is like a present sickness or the birth of a child. It presses against the total of resources; it starves the other needs; it increases the marginal significance of wealth either for present consumption or for investment, at the same time that it increases the marginal sacrifice of postponing goods to future uses. Therefore, of itself, and purely as a present influence, it must tend to raise the postponement charge.

But it does more: By the attendant promised addition to future income, its influence is to reduce the marginal significance of future wealth or of future purchasing power. Here is, therefore, to be recognized a second and distinct influence to raise the relative importance of the present over the future and to increase the interest rate.

Or to put the case in another way: Out of the individual's

rates themselves impose the necessity of larger funds in order to provide a given fixed return. It is not incredible that, on the whole, falling interest stimulates saving, despite the weakening appeal of the direct motive of gain.

total supply of goods, present and future, some part can go for present needs, some part can be directed to future needs. What part of the goods available to the present will be allotted to the present? So far as the present goods are alone concerned, the problem is one of distributing these present resources according to the principle of maximum utility as recognized in the present time. But it is, in fact, a distribution which must take account of many goods that do not yet exist. Those goods which are not yet, but may come to be, through the sacrifice of some of the present uses of existing goods, are among the influences bearing upon the distribution of the present goods to limit the supply of those allotted to present consumption. The existence of earning power with time must, therefore, bring about for the individual a higher postponement charge, irrespective of the promised attendant increase in the supply of future goods as a force affecting the utility of the future goods. Therefore, when the saved wealth goes to uses controlling increments in time, there is a distinct influence to be recognized as bearing upon the marginal utility of future wealth and, therefore, upon the relative marginal utility of present wealth as against future wealth, and, therefore, upon the interest rates indicative of the terms of exchange between present purchasing power and future purchasing power.

Interest not mere perspective. — The fact clearly is that the earning power of wealth in time has great significance for the rates that will be paid for the present control of purchasing power. The rate is not purely the expression of a "preference for early enjoyable income over late enjoyable income," [1] and of the degree in which future consumables suffer in present estimation as against present consumables. This may be clear by a simple illustration: Suppose that to-day all present needs and desires for immediate consumption have been fully satisfied — a situation in which, by the terms of the assumption, there can be neither any "prospective underestimation" of the future nor any degree of inadequacy in "present provision," — there being in fact no unsatisfied desires for present consumption, but only a clear apprecia-

[1] *The Rate of Interest*, Irving Fisher, Macmillan, 1908, p. 80.

tion of to-morrow's needs. If, now, it be discovered that for each unit of the existing wealth there may by to-morrow be derived two units for to-morrow's consumption, it is clear that there will set in forthwith a vigorous bidding for the currency with which to control the present facts offering a command of to-morrow's consumable goods, and that there must result an interest rate approximating 100 per cent per day, payable at the end of the loan period. And it is equally clear that no one can need the present consumable goods unless to keep them till to-morrow. The doctrine that interest resolves itself always into a perspective between present consumable income and future consumable income will evidently not hold. Rather must it be true that the mere presence of gain-rendering goods will always in a competitive and pecuniary society immediately attach an interest rate to money loans or to loans of purchasing power expressed in money. All that needs be assumed is that the level of prices shall not change. All goods controlling an increment of future goods must therewith control an increment of price.[1]

[1] *Abstinence.*

The abstinence, or impatience, theories of interest are several in emphasis or in aspect — regarding interest,

(I) As one sort of reward for waiting.

(II) As the reward for waiting in general.

(III) As the reward for the abstinence represented in the existence of non-land wealth.

(IV) As a reward fixed and determined by the degree of pain or abstinence in the marginal waiting and proportional to it.

(V) As a reward morally justified by the burdens of waiting.

(I) It must be obvious that whoever pays me for my loan to him of suspended purchasing power pays me for foregoing that next best use of the purchasing power which is open to me, whether for consumption, or for employment in my own business, or for lending to some third person, or for holding in the bank or safe or cellar awaiting my later direction or use. If this is all that is meant by the abstinence doctrine, it is axiomatically true, implying merely that the borrower pays the lender for the use of what the lender allows the borrower to have. Instead of keeping my own purchasing power in my own hands and under my own control, I

More goods *versus* more money income. — Recalling, however, that gain to the entrepreneur is always gain in terms of price, and that gain in terms of an increase in bushels or yards or gallons is entirely beside the purpose unless

allow the borrower to take it and to use it for a specified time for his own benefit; and he pays me interest therefor.

(II) But there are other modes of lending. I may turn over my land to the borrower for a specified time. To lease this land to him for rent is to forego my direct use of it. If I had sold him the land, allowing the entire purchase price to run for a term at interest, he would then be paying me in terms of interest approximately the same sum, for precisely the same service, as under the alternative payment in the form of rent. This second method, the interest method, is, that is to say, merely another form of paying for the use of the same thing.

Rent, therefore, equally with machine hires and with premiums for the present control of loan funds, must fall within the category of interest in its widest and least technical sense, and must be regarded as a reward of "abstinence." The abstinence theory in this sense raises, then, only one issue — that of the possibility of distinguishing land rent from other rent, and land hires from the hires of other instruments. That is to say, the notion of abstinence as the test of capital, and the remuneration for abstinence as the test of interest, must rank land as capital and its remuneration as interest, and must assign to hires of land and to hires of machines one and the same relation to cost of production and to market price.

(III) *Interest as the reward for the abstinence represented in non-land wealth.* In fact, however, interest has more commonly been limited to the return upon such wealth as is due to the industry of man as distinguished from the bounty of nature. The distinction emphasized by this view is purely genetic, pointing to the original sources of the wealth that is lent. The test has reference solely to differences in origin between items of equipment in the productive process. In substance two kinds of rents are set up — machine rents and land rents — and only the first of these rents is called interest. Interest in one sense land rent unquestionably is, being an income from wealth: this view regards the case from the standpoint of the investor in land. But the view under examination denies that incomes from land are interest, even when the rent is expressed as a return per cent upon the value of the land. Nor, in this view, can it matter that the purchase price of the land may have been saved out of wages or salary or have been derived from the sale of a machine; the investment being now in land, the income is regarded not as interest on capital, but as belonging to an entirely

as an intermediate step to gain in price, it is not quite axiomatic that the production goods which promise an increase of concrete product with passing time must promise also an increased aggregate of selling power. Only when the

separate category, rent on land. And if the income-rendering fact is a franchise or a patent right or good will, these, though not factors of production in a mechanical or technological sense, are somehow conceived to earn interest rather than rent. Not being land, how can they earn rent? And their returns being something, what shall they be if not interest? The current and actual interest rates are taken to derive their explanation from the earning powers of the non-land items of wealth; that is to say, the rents of machinery and of other non-land properties are invoked to explain the interest rate, or the interest rates, on the basis of which the rents of land are capitalized into a market value.

And if the owner of the farm has sold it, with the live stock and machinery, on time to the tenant, and, together with this, has advanced to the tenant funds saved out of past wages and profits, the doctrine under examination would logically be unable to tell whether this total of funds is or is not capital, or what part is capital, or that any part is capital. This particular type of the abstinence theory of capital and interest purports to explain the actual *rate* of interest, through the rents of those factors of production *derived from labor*. In fact, if *funds* must be admitted to earn interest, the explanation will be offered that they are lent to borrowers who invest them in such goods as can earn such incomes as may be called interest. And if it be objected that this is to abandon the distinction of origin — to turn from the past of source to the future of application — it will be replied that this matters only formally — that the interest rate on the funds invested traces back to the labor-produced appliances of industry, and that these other investments in land and in franchises and in tax-farming contracts and in Peruna brewing and in Hop-Bitters advertising, are somehow not to be bothered about. Interest *must* go back to labor-produced wealth, else it can find no basis in an *original* abstinence: only so, in fact, can capital be held to be merely stored-up labor; only so can all capital outlays be reduced to wage advances upon past labor; only so can land be denied to be capital; only so can land rent be eliminated from cost of production; only so can prices be fixed by wages and interest outlays upon marginal land; only so can either the labor theory or the wage theory of value be supported.

It was, in fact, the necessities of the labor theory of value that enforced the abstinence-in-origin theory of interest and the abstinence-in-origin line of distinction between land and capital. If

later product will command more money than the earlier product is there room for gain and motive for interest. There certainly are cases where the increase in concrete product is more than offset by the effect of the increasing supply to

prices were to be made proportional either to outlays in wages or to the pains of labor, it was necessary to find the price-determining cost of production where no land cost could enter. Production upon marginal land, rentless land, was appealed to for this purpose. But it is obvious that there are also capital costs on this marginal land. It then became necessary to reduce all these capital costs to wages, and by this method to interpret all capital as stored-up labor: so viewed, the capitalist is only a laborer gone to seed.

Thus it came about that wages and interest were conceived as causes of value while rent was a result. "Corn is not high because rent is paid, but rent is paid because corn is high. . . . If the high price of corn were the effect and not the cause of rent, prices would be proportionally influenced as rents were high or low, and rent would be a component part of price." [1] The doctrine is that the high wages and the high interest cause the high prices, and the high prices cause the high rents: the rents are the result of that of which the wages and the interest are the cause.

But even so, the theoretical structure of classical Economics was not complete. The significant aspect of labor as cost must lie ultimately in the pains of labor. The problem, therefore, was to make prices proportional to the labor pains of production. To the employer, truly, the wages and not the pains of the employee must rank as costs. And it is evident that prices are directly dependent upon employers' costs. So be it: as meeting this difficulty, the labor-cost doctrine asserted, out of hand, that the wages paid by the entrepreneur for the labor are themselves proportionate to the laborers' pains incurred in the labor. So much being naïvely but satisfactorily established — values being proportional to wages and wages to pains — values were declared proportional to pains.

That the positions under criticism are on the whole characteristic of existing economic authority will be evident from the following quotations:

"The division of labor between those who carry on the successive stages of production conceals the essential nature of their operations. A manufacturer spends only a part of his means upon hiring laborers directly; the rest he uses in buying plant and materials and in the other expenses of production. But those

[1] Ricardo, *Political Economy*, Gonner's Ed., chap. ii, sec. 29.

depress the price per item. If, however, the exchange power of money relatively to commodities in general is not changed — if the supply of currency is adequate to maintain stability

materials were themselves fashioned by laborers to whom another set of advances had to be made by a previous capitalist. The wholesale or retail merchant hires comparatively few laborers, — only a set of clerks and a porter or two. But he recoups by his purchases of goods the advances of a long series of preceding employers, himself giving only the finishing touches in the whole process. Looking at the operations of capitalists and employers as a whole, and reflecting on the outcome of the division of labor among them and their workmen, we find that all capital is made by labor, and all the operations of the capitalist class are resolvable into a succession of advances to laborers. . . . Some are made from day to day, in the course of current operations. The whole of existing capital may thus be described as a great accumulated surplus which has been used and is being used for maintaining labor, . . ." [1]

"Not only the creation of capital involves labor and saving; its maintenance does so also." [2]

"Rent forms no part of the expenses of production; that is, it forms no part of those expenses of production which affect price. It is a differential gain, an excess over and above the total expenses of the more fortunate producers. Price is determined by the cost of the marginal increment. Rent is not one of the factors bearing on price, but is the result of price. It is due to the comparatively high price which must be paid to bring out the total supply." [3]

"By expenses of production we mean the outlays that must be made to bring a commodity to market, — what must be paid for wages, materials, and the like. Since the materials themselves are made by labor, and the outlays of capitalists are resolvable into a succession of advances to laborers, expenses of production in the end are simply wages. By cost of production we mean efforts and sacrifices — mainly labor. The distinction between expenses and cost — between wages and labor — is an obvious one and an important one, though unfortunately not indicated by any well-established phraseology. In everyday language people mean by 'costs' employer's outlays; and this current usage was accepted in most of what has preceded. In what is to follow, it will be helpful to keep these two notions distinct, and 'cost' will be used in the sense of labor or effort." [4]

". . . Expenses of production and cost of production ordinarily run together." [5]

[1] Taussig, *Principles of Economics*, Vol. 1, p. 75. Macmillan, 1911.
[2] *Ibid.*, p. 77. [3] *Ibid.*, Vol. 2, p. 56. [4] *Ibid.*, p. 147. [5] *Ibid.*, p. 153.

in general prices — it must be clear that an increased number of items of product must carry with it an increase in the aggregate selling price, *if only* the price per item has not *especially* suffered. In the general average, therefore, more instrumental goods, more equipment, must mean not only more products, but a greater total of selling price and therewith room for price gain. By assumption — be it recalled — the general price situation has not changed.

"We define private or acquisitive capital as any product of human industry that serves as a source of income to individuals. It includes: 1. Those forms of social or productive capital that are subject to private ownership, and serve as sources of income to individuals. Land is not included.[1]

"Profits are neither more nor less than the excess of the selling price of the products of industry above the amount advanced as wages. It is true that some of the investments of an individual capitalist are not made in the form of wages, but in payments for materials and machinery which other capitalists have made ready for use. But if we look at the relation between capitalists as a class, we shall find that the capitalists as a body advance wages.[2]

But to make the pain proportion complete something had to be done with interest costs. Wages and interest together being taken to be the price-determining costs, a pain basis must be found for the interest as well as for the wages. The famous economist, Senior, came to the rescue with the announcement that the pains of abstinence lie behind saving and offer a pain basis for the determination of interest.

Time suffices only to indicate what Senior's reasoning implicitly asserted or assumed:

1. Not merely that all labor is painful and that the pains of different laborers are homogeneous for the purposes of comparison and, as homogeneous, are reducible to units of pain adapted to being set over against units of wage compensation, —

2. Not merely that abstinence is a pain and that all abstinences are homogeneous so as to be reduced to pain units adapted to being set over against units of interest compensation, but also,

3. That labor pain units and abstinence pain units can be made homogeneous and so together be set over against the homogeneous units of price product and of money compensation.

[1] Bullock, *Introduction to the Study of Economics*, 3d ed., p. 423.
[2] Hadley, *Economics*, p. 124.

If, then, there are exceptional cases in which the aggregate price product suffers despite the increase in the number of items produced, there must be a still more marked gain in price for the remaining industries as an average. Failure of price gain to attend a gain in concrete product is thereby proved to be exceptional, and basis is established for the payment of interest in every case which is not exceptional. Therefore funds must bear interest. Investment will seek the field in which gain is possible and will avoid that relative overproduction which in the exceptional case would mean a loss.

Competitive gain in time affects rate on funds. — It is evident that these openings for gainful investment must have a direct bearing upon the rate of interest, if for no other reason, by the very fact that they help absorb the supply of loanable funds; they offer avenues of investment; the creation of equipment requires the diversion of productive power away from the service to immediate consumption. Thus, so long as instruments of production are serviceable in the increase of product and as services are rendered in time and are roughly proportionate to time, time charges for the use of wealth appear to be inevitable. Rents are

(IV) The explanation of interest as somehow connected with abstinence has already been shown to contain an element of important truth, if only the notion of abstinence be cleared of all implications of pain, the scope of possible abstinence sufficiently widened, and the correct relations set up between it and the volume of funds offered for loan.

(V) The discussion already had and the analysis still to follow should make entirely clear that there is no relation between the income from property and the amount of pain or of deserving involved either in the getting of the property or in the keeping of it. In other words nothing remains of the notion of abstinence as an ethical justification of interest. For this purpose, indeed, abstinence has never been supposed to be good for anything with regard to savings in the aggregate or with regard to the interest paid upon savings as an aggregate, but good only for the marginal fringe of cases. But even for the marginal case it is good for nothing. The social justification for interest, as for private property in general, must be sought elsewhere and in a different range of considerations.

indeed interest in the broadest and loosest sense of the term, but in none the less an ultimate and fundamental sense. And as long as rents remain and as consumption goods are in exchange relation with equipment goods, a time charge must exist both for consumption and for equipment goods.

Durable consumption goods affect rate on funds. — And precisely the same analysis holds for the relation of durable consumption goods to the rate of interest. These goods, like durable gain-rendering goods, afford service with passing time, and equally with gain-rendering goods, involve the displacement of present consumption in favor of later consumption or absorb bank-created funds. Long-time consumption goods must, therefore, rank with long-time production goods as among the applications of present income to those future purposes, through the attractiveness of which the margin between present use and future use is affected. The aggregate of uses of a durable good of either sort must rank in the present estimation as high as the present consumption that is displaced, else the durable good will not be chosen as against goods for immediate consumption. A piano, or a picture, or a dwelling house is as much an investment for future income as is a plow, or a farm, or a truck wagon or a loom.

Rents and interest on funds. — Taking it, then, as established that the possibility of investing funds in the creation of either durable production goods or durable consumption goods tends to support or to raise the interest rate, and that the existence of opportunities for investment in the development of mines or of water powers, or in the amelioration of agricultural lands, or in the upkeep of these lands, furnishes a corresponding demand for funds and exerts a corresponding effect upon the payment of interest — we are ready to examine a further question: Is the mere existence of rent-bearing properties, whether of the production or of the consumption type, sufficient to guarantee an interest rate?

To put this to the test, let there be assumed the extreme case of a society in which agriculture is the only industry, land the only instrumental good, with none of this land open either to wear-out or to improvement:

There will be rents, surely, but will there be interest, and what will determine the rate of it? By assumption, the land offers no opening for social capitalization either by improvement or by upkeep. Social saving cannot go into it or social improvidence waste it. It contributes to the aggregate income, but it offers no place for social savings. Socially viewed, therefore, it can have no bearing on the interest rate excepting as, through its contribution to the social income, it avails to make saving easier. But there remains, by assumption, no rent-earning employment for the savings unless to put them into long-time consumption goods.

But, even so, an interest rate must be established as the equating point between the demand for immediate consumption and the demand for the enjoyment of long-time consumption goods — abstinence on the one side as over against the later incomes accessible through abstinence.

But now assume further that goods for immediate consumption are the sole possible products: Here, however, as mostly elsewhere, the social point of view serves rather to obscure than to illuminate the analysis of the actual competitive process. It is true that so far as society is concerned, the lands were not due to any original labor or saving, are not maintained by its abstinence, absorb none of its current savings, cannot be wasted, destroyed, sold, or given away. But little or none of all this is true for the individual owner of land in a competitive society. True — by assumption — no individual created the land or can add anything to it. But any individual can save, and can buy land with his savings. True, he cannot destroy the land or deteriorate it. But he can do what, for all his individual purposes, amounts to the same thing; he can sell the land, and can then dissipate all or any part of its proceeds. For him, then, though not for society, the land is both producible and destructible. It is retained by him — if retained at all — through his continuing providence, foresight, abstinence. So it comes about that there attach to lands reservation prices on the part of the possessors and demand prices on the part of prospective buyers. And, on either side, these prices are arrived at through subjecting the individual estimates of the future incomes to the individual rates of abstinence protest. Thus if for the owner present consumption outranks in attractiveness the long series of opportunities for future consumption, he will sell. Just as another man may refrain from spending and buy land with his savings, so this owner may refrain from keeping, and spend the proceeds of the sale. To him for whom having is better than spending,

the land will especially appeal as an investment. To him for whom spending is better than having, the price of the land will be preferred to the land.

It is thus clear that the existence of any kind of valuable durable goods — whether of the production or of the consumption sort — is sufficient to support an interest rate. The goods — of whichever class — bear rents. Offering future incomes, they offer inducement to present abstinence. They fall, therefore, into the hands of those relatively the more willing to undergo present abstinence for the sake of future income. They fall out of the hands of those whose preference is relatively the more strong for the present consumption — those electing "to take the cash and let the credit go." The interest rate is the basis on which is adjusted the sale of these future incomes as against present cash.

Private adventure and interest on funds: Renters' surpluses. — And we may now safely go one step further: The disappearance of interest in a competitive society is impossible so long as gainful adventure is open; and gainful adventure must always be possible so long as there is equipment to be hired or any sort of opportunity to be exploited. This is a necessary inference from the sole fact of buyers' and renters' surpluses. Entrepreneurs being different, the market rent or the market price of a gain-rendering agent or instrument or opportunity must always afford a surplus to some of the employers above the price or hire that they have to pay for it. It will not matter for this purpose how low the interest rate may, through other influences, come to be, or how high the capitalized present worth of the instrument may rise with falling rates of interest — the earning power to the individual entrepreneur will still offer its surplus above the market hire which the instrument commands. These surpluses must, therefore, always remain among the incentives for borrowing. There will always be a market for immediate funds at some rate of interest.

Interest, private gain, social service. — Not much remains to be said with especial reference to the demand side of the interest problem. It is clearly through the competitive effort for gain that rents attach to the goods that promise gain. The renting or purchasing of gain-promising proper-

ties is, however, as we have seen, only one of the ways in which the individual makes the possession of suspended purchasing power contribute to the gain which he has in purpose. The motive of the business borrower is pecuniary gain, the largest possible net balance in terms of price. The service toward this end is what capital means to him. He pays interest on borrowed funds as a step toward this goal. These funds may, it is true, be gainful to him through his investment of them in instrumental goods which earn rents, or in rental outlays for the term use of such goods — lands or machines or what not. But equally he may apply the borrowed funds, not to land or land rents nor to machines or machine rents, but to the payment of interest on existing loans, to the hire of labor, or to the purchase of raw materials. Or with equal gain, he may use his borrowed funds in advertising, in insurance, in taxes, in acquiring control of patent rights, in the buying of franchises, or in the establishment of a monopoly. That productivity through investment which has to do with his demand for funds and with the rate at which he will hire them, is a productivity attaching to many other things than technological capital or social capital or equipment goods.

Thus — be it once more repeated — the gain in question need have no sort of dependence upon any contribution to social welfare. The enterprise under contemplation may be the equipment of a gin palace, or of a gambling den, or of an opium joint, or of a counterfeiting plant, or of a dive, or, again, it may be the establishment of a Town Topics blackmailing project. Or the outlay involved may be purely for the purchase of a tax-farming contract, or for the buying of favorable legislation, or for corrupting the police. Or the enterprise may involve the purchase of the stock control of some competing factory or railroad with a view to plundering it or wrecking it, or to the end of perfecting a monopoly, or as a step towards large gains through short sales upon the Stock Exchange. Neither the thrift of abstainers nor the enterprise of borrowers is necessarily conducive to social welfare. Some of each is good and some of each is bad. Any adventure in the quest for gain, if it require loan fund capital in its prosecution, is a basis for the borrowing of funds, and therewith of the paying of interest. As the capital fund which is loaned may have been derived from crime or exploi-

tation, so it may be borrowed and used for further purposes of crime and exploitation. The folly that lies in the traditional doctrine that all saving is good for him who saves — that for him thrift is always wisdom — and the hideous error of the traditional assumption that for society capital is always good in its exploitation, have already received some attention and may later command still more.

Thus the demand for loan fund capital includes the need of funds for the control of technological productive goods, but covers a field of activity indefinitely wider and more varied. And within this demand must also be included the call for consumption loans of diverse sorts — public and private, wars and travel, uniforms and dress suits, cannon and firecrackers.

Separate independent causes. — Several different bases are commonly given for the actual preference for present purchasing power over future purchasing power: (1) spendthrift borrowing — irrational present consumption at the prejudice of the future, (2) rational consumption loans, (3) the technological productivity of wealth with passing time.

We have seen that a premium of present money or of present consumables over future money or future consumables might attach in a society lacking all gainful activities, *e.g.*, among the reservation Indians or among students in the ordinary academy or university. Or, equally well, a charge for keeping might occur — negative interest — as, for example, when one pays at the parcel room for having his suitcase guarded, or pays rent for a box in the deposit vault, or, as in mediæval times, the owners of treasure paid the baron on the crag to keep the treasure safe. That borrowing would take place in the assumed society is clear enough, precisely because men differ in desires, provisionment, and foresight. But no one can be certain whether in the balance the lending or the borrowing disposition would be the stronger. Either might be. The mere principle of perspective, whether the borrowing be wise borrowing, or unwise borrowing, or both, is alone adequate to maintain an interest rate, but is never certain to do it.

Equally is the technological significance of goods adequate by itself to explain the existence of interest, even though the situation were one in which, were all opportunity for gain absent, no premium of present over future dollars could attach.

So, again, the existence of durable consumption goods is alone adequate to maintain an interest rate. And, finally, the oppor-

tunity to make gainful use of funds in financing predatory activities is adequate to support an interest rate, even though the situation were one in which labor were the only productive fact in the society, in which all durable consumption goods were entirely lacking, and in which, in the absence of the demand for funds for predatory purposes, no premium of present over future dollars could attach. In any competitive society making use of existing wealth as an auxiliary of production and of private gain, and employing a money standard, the interest phenomenon is inevitable.

The mechanism of interest adjustment: Reservation rates. — The fixation of the rate of interest is a simple problem in the mechanism of market price, the demands for funds presenting themselves as offers of rates per cent, the reservation prices being also merely the minimum acceptable rates per cent. Demand schedules and supply schedules may easily be constructed illustrative of the process of adjustment. Schedules of this sort would differ from those familiar in earlier discussions only in presenting rates per cent on the demand side and on the supply side, rather than prices per item of goods. The items of reservation in the lenders' schedule obviously report the rates at which the lenders will not only refrain from spending their cash resources, but will also refrain from exploiting them directly for their own gain.

For many minds, indeed, the interest problem may be simplified by a device suggested in earlier pages (Chapter V).

It was there shown that with a given number of goods for sale at whatever they will bring, the price must necessarily adjust itself at a level which will find sellers for all; the terms of the demand schedule control. When, however, the sellers are not disposed to sell at whatever best price they can get, but, on the contrary, the sales are conditioned on certain minimum prices, the problem essentially changes and the equating price is another. With the appearance of these reservation, or refusal, prices, the supply side of the equation appears to be somehow changed — not less goods, it is true, but goods differently held; the price must be a different and a higher price. If, for example, the buyers' prices are 10, 9, and 8, with three goods unreservedly for sale, the price must be fixed as low as 8, else not all of the goods will be sold. But if the sellers have reservation prices of 10, 9, and 8, the point of adjust-

ment must be higher. At 8, the price at which the buyers will take as many as three, the sellers will part with only one. At 10, the price at which all the sellers will sell, the buyers will accept only one. The price must therefore be 9 with two exchanges taking place. This earlier discussion also showed that, in accurate analysis, the difference between the two cases is really a difference in the demand situation; that the supply is still three, but that the sellers have themselves demands — the supply schedule as ordinarily formulated hiding demand elements; that a better statement would be attained by transferring the reservation prices to the demand side of the equation, the demand schedule then appearing as made up of two demands at 10, two at 9, and two at 8 (10, 10, 9, 9, 8, 8), as against an unreserved supply of three. The price would, of course, still adjust at 9.[1]

By this device of interpreting reservation as demand prices, it is possible to regard the earning powers ascribed to one's own wealth under his own management as making up a part of the entire demand for such share of his available pres-

[1] *The Concept of a Market.*

It has already been noted how admirably this unmasking of the demand elements in the prices of the supply schedule fits into and illuminates the analysis of cost of production. But the service is perhaps even greater in helping to define and clarify the concept of a *market.* For example: is the market for wheat one world market, or the Chicago market, or the Liverpool market? Or is it all three, and an indefinite number more?

It is at any rate clear that the Chicago market and the Liverpool market are not quite distinct and independent; the circles of different markets overlap and intercept — the more perplexingly as the more markets are recognized. The explanation is to be sought in the fact that the supply or demand of any market is potentially supply or demand in any other, and that, with any changes in the relative situations, these potentials quickly become actuals. Were, indeed, charges for transportation and for handling canceled, all the world would become one simple market. And, in point of fact, all the world is now one market, but a market with varying reservation prices upon the varying supplies under the varying conditions of transportation. Theoretically, indeed, the market is anywhere and everywhere, if only there are recognized the appropriate demand and supply schedules. Just as the axis of the earth has been asserted to stick out in every New England village, so the world market is at every place, only that in most places little business is doing. The locations of the great wheat marts of the world, the busy markets, are determined by the con-

ent purchasing power as is not allotted to purposes of immediate consumption. The individual's surplus over the needs of immediate use is, then, distributed between durable consumption goods, gainful investment under his own supervision, and loans to other men for use in any one of the five possible ways: (1) immediate consumption goods, (2) consumption goods postponed in use, (3) durable consumption goods, (4) durable investment goods, (5) loans to others — in which last case the first borrower is a mere intermediary in working out the final distribution of the aggregate loan fund.

So viewing our problem we are able to regard the interest rate as the point at which the supply of the available wealth of investing or lending individuals — mostly current income — is distributed between present uses on the one hand as against those uses which, *to their investors or lenders,* present

ditions of production, of transportation, and of consumption; they are the points at which purchasers, disposed to pay high prices *there,* relatively to the asking prices, are met by sellers disposed to sell low *there,* relatively to the demand prices.

This analysis lends further emphasis to the already familiar doctrine that any item anywhere, say of wheat, is, at its appropriate reservation price, an item of supply anywhere. So any item of price-paying disposition is a demand price anywhere, allowance being made for the exchange rates bearing upon money at that point. The supply of any particular good is all the goods there are, no matter at what price held. The demand for the good is all the dispositions there are to pay a price to get the good or to refuse a price to keep it.

Computing, therefore, as included within the reservation price of any market, all the different transportation charges necessary to the delivery of all the different bushels of wheat in the world to that market, it is quite defensible to compute the aggregate world price of the world crop of wheat in that market as the number of items in the world times the price per bushel. Those bushels of supply not actually transferred have each its reservation price in that market. Theoretically all are present, but some do not sell precisely because they are reserved — bid in — at the going price.

Thus it is purely an academic or imaginary rather than an actual problem to surmise what the whole supply would actually sell

themselves as future uses. The consumption demands of borrowers make up part of the aggregate borrowing demand, and by this very fact rank with reference to the lenders as uses future *for them.*

The pain-pleasure theory of interest. — It should now be evident that all attempts to explain the rate of interest as the point of equation between the pains or sacrifices of lenders and the pleasures or benefits or gains of borrowers, or to explain the rate of interest as a rate of preference for early enjoyable income over late enjoyable income, must rest ultimately upon the assumption that, for the purposes of the problem, society may rightly be regarded as an individual and organic thing. For, after all, how arrive at an equality between pain on the one side and pleasure on the other side, unless the pain and the pleasure pertain to the same individual? And whose is the preference when one of the incomes is chosen against another? The actual society is a competitive society. And for a competitive society it must be recalled (1) that the interest phenomenon points solely to a preference for present money over future money, and (2) that the saving has to do with some individuals and the paying with other individuals and, therefore, that neither the impatience of the different lenders relative to one another, nor the gains and advantages of the different borrowers relative to one another, are to be made simple and homogeneous quantities. And still clearer is it, that in view of all the different lenders on the one side and of all

for, were all to be forced upon the market at whatever price were necessary to market all. This is really to ask what effects would follow the cancellation of the actual reservation prices.

Essentially, however, this is what is done by certain economists who have argued that there is no such thing possible as a world market price for the entire supply of any commodity.[1] Precisely what would happen if existing conditions were absent — if the holders' demands were canceled — one may not easily conjecture, though clearly the price must fall.

[1] See, for example, "Some Limitations of the Value Concept," Allyn A Young, *Quarterly Journal of Economics*, Vol. XXV, No. 3 (May, 1911), p. 409

the different borrowers on the other side, no adjustment can possibly be reached expressing any general or aggregate rate of preference for present goods, or present incomes, or present money, as over against some corresponding quantity or item or thing in the future.

Proposed equation impossible. — And equally obvious is it that no protest, impatience, or sacrifice of any one individual as lender can be equated against the advantages or gains of some other one individual as borrower. As the lenders are many and different, and as the borrowers are many and different, so are the sacrifices different and the advantages different. The difficulty here with the social organism interpretation is precisely parallel to the earlier difficulty of making all the different pains of different producers of goods homogeneous and equal, and all the different utilities of different purchasers homogeneous and equal, and thereupon equating this aggregate of costs against this aggregate of utilities into a price expressing either a marginal sacrifice or a marginal utility. The mere fact that, precisely as there are both sellers and buyers variously distant from the margin in the fixation of price, so there are borrowers and lenders variously distant from the margin in the fixation of the rate of interest, vetoes the possibility of resolving the interest rate into some social or aggregate balance of preference for early enjoyable income over late enjoyable income. And more than this: even with the marginal lender, nothing is to be inferred as to the degree of his sacrifice in saving or of his advantages in lending, more than that these two quantities, each of unknown absolute magnitude, are yet equal one to the other. Still less is there warrant, either in contracts of sale or contracts of lending, for the assumption that the magnitudes involved are equal for the two parties to the transaction. The only equality to be asserted is that to the marginal lender the advantages of lending are equal to the disadvantages, and that to the marginal borrower the disadvantages of borrowing are equal to the advantages. There is no equivalence of the disadvantages to the lender with the advantages to the borrower, nor any equality between the importance to the lender of the present income which he

lends and the importance to the borrower of the future income which he returns.

Social explanations. — But the final objection to any possible way of explaining interest from the point of view of the social aggregate is in the fact that the productivity which motivates the borrowing of funds is productivity only in the sense of service for private acquisition. Anything is productive to the borrower which makes for an increment of price to him. The borrowed purchasing fund may, indeed, be directed into machinery, farms, or raw materials, — into lines, that is to say, of technological and social productivity, — but, equally well, it may not. The social organism doctrine is a doctrine exclusively for optimists. In point of fact, any adventure promising a gain in terms of price may contribute to the demand for loanable funds, and, as based upon it, there may emerge an interest rate.[1]

[1] *The Social Organism.*

The difference between an organization and an organism is hard to define, simply because we do not know what life is. An organism is an organized unit possessed of the mysterious thing that we call life — a fact and a concept from the field of biology.

The distinction between a social organization and a social organism is the same distinction: a social organism must be a something in which the principle of life is the basis of the organization. Social organizations there are without limit. Each of us may be a member at large in an indefinite number — the family, the church in its different branches, the State in its different subdivisions, the Masons, the Odd Fellows, the Royal Society, the Academy, the Anti-Tuberculosis League, the International Peace Society, the reading circle, the Club, and the football team — perhaps also in the world and the Universe. Are all of these also organisms in the sense of things themselves alive, rather than merely made up — some of them — of things which are separately alive?

They may be: how can we know, not knowing what life is? The biologists do not so declare them; they see no evidence of the centralizing, coördinating, organizing activity of that strange fact called life. Each of these organizations appears to lack that sort of unity which we call individuality. But it may none the less be there. In a family of father, mother, and two children, there may be, unknown to any member of it, still another member, a fifth individual, the family itself. There may be, indeed, two or three or a dozen of these others; how shall we deny it? Unproved, it is also undisproved — and undisprovable. We do not know. Likewise, how can we assert it? For anything that we know to

This chapter should have made clear that interest is one reward for waiting, but that, in its strict technical sense, it is only one of many rewards; that all rents or services from

the contrary, every atom in the Universe may have each its separate psychic aspect and activities — herein resting the secret of chemical affinity: their souls are drawn to one another or are seeking their mates. But is it science to assert it or to assume it? And have we thereby explained anything? One mystery is not the competent solution of another. This sort of explanation is merely pseudo-explanation — faith or metaphysics or guess. In similar jargon, principles are sometimes said to be working themselves out, or to be engaged in the process of realizing themselves. But talk like this means merely that some unknown X is doing something or other. We recall from Goethe "Men often think, if only words they hear, that therewith goes material for thinking." So also Gilbert and Sullivan:

> "Her gentle spirit rolls
> Through the melody of souls; —
> Which is doubtless very pretty,
> But I don't know what it means."

Nevertheless it may roll. It may be that the Universe, as a unified organized thing, is alive in every detail — an organism in the biological sense — as Pan-psychism declares to be the ultimate truth. Surely somewhere in the Universe all that there is in it has its explanation — if only we could find it. But the mere assertion of this large fact — taking it as a fact — is not an explanation of all the intermediate subordinate facts. After all, what is *explanation* in our human sense? We understand not one whit the better any single item out of a great whole, by discovering that, taking it as a whole, it stands for us as merely one gigantic flux and pow-wow. To assert this is rather so far a confession of our total lack of understanding. The social organism people greatly need to master the distinction between an explanation and a mystery. It is not the solution of a problem to give it up, nor the unriddling of your riddle to confess that you yourself have no solution.

Good rhetorical usage does doubtless permit us to speak of human beings in aggregates, with the use of a singular verb: *the Committee is agreed; the group disperses; Congress votes; the army is marching.* We may talk of public opinion, *esprit de corps*, the spirit of the times. But probably no one understands this collective use to imply or to assume organic unity.

Equally well we may say that *the army are marching, the com-*

durable goods, whether farms, franchises, patents, instrumental goods, or durable consumption goods, are rewards for waiting; that since the lender of any good is an abstainer, if

mittee are agreed (with one another), the proper use depending on whether the group is taken as a whole or by its constituent units; *the crew was exhausted* or *the crew were exhausted* — accordingly as we mean one thing or the other. Though the act or the situation is really one of each individual separately, there is no actual ambiguity or uncertainty involved in saying that *the battalion is eating dinner.* The activities are similar, roughly simultaneous, and are thought of in block. True, one man eats rapidly, another slowly, some little, and others much, and a few sick ones not at all, — but the expression serves, and implies its own limitations of accuracy. And so of an army, when we say that *it marches*, no doubt is even faintly suggested that each one does his own walking, works his own muscles, uses up his own tissue, and that presumably many are halt, some falling out by the wayside, while still others limp, and some swear. But no one of these differences matters for the purposes of the thought in mind. True, the expression is in strictness inaccurate, were any perversity bent on misinterpreting it. But when it comes to asserting that the army is brushing its teeth or has stubbed its toe, there is obvious difficulty.

And for purposes of the accurate analysis of the price problem, there is really the same difficulty in thinking of a social coldness or hunger or desire or pleasure or pain. In the price problem, the need is to understand precisely how the particular individuals arrive at their respective demand prices. There is no one single homogeneous utility nor any one single aggregate demand price. Utility, for the purposes of the analysis, is an individual category. Even in public finance, the tax costs and the public services are ultimately individual.

It must, at any rate, be clear that if society is an organism at all, it is an organism of a very low order — like, say, the jellyfish. But it is only to the higher orders of organisms that mind and thought and purpose and will can be confidently ascribed. To interpret social phenomena in any organic sense adapted to explain them, as connoting judgment, appraisal, comparison, approval, condemnation, — the social organism must take on the attributes of personality.

So far as we can make out, personality implies a distinct, separate, and centralized psychic unity, in which at least four things are essential — thought, will, consciousness, and memory. Try to make out what the *you* would be, lacking any one of these. What makes *you you?* Unconsciousness means the suspension of individuality. Perhaps thought and will are not quite so clearly

not by foregoing the direct use of his own wealth, then by foregoing the sale price of it, all rental and service incomes are therefore abstinence incomes; that here once more the distinction between land and other instrumental goods breaks

essential. But, obviously enough, there is no personality without memory — the cement that binds together states of consciousness which would otherwise be unrelated. What makes the *you* of the present moment the same person with the *you* of a half year ago? Dual personality is a duality of independent memory systems. If in the next life we are to remember nothing of this one, it cannot greatly matter whether we are to live again or not; immortality, on terms of entire forgetfulness, would be a valueless gift — not the continued life of one, but the birth of some one else. So far, then, as we know, there is no social organism in the sense of a personality fulfilling this fourfold test — fulfilling, indeed, any one of the four tests.

Not the less, however, must it be frankly admitted that a mere hypothesis, as sheer assumption, if it offer a working explanation of facts which otherwise must go without explanation, becomes thereby something more than mere hypothesis or assumption. That it fits the facts, harmonizes them, unifies them, makes them consistent when nothing else will, is some inductive support of its truth. On these terms, any hypothesis, however tentative, may stand, pending the coming of something better. The organic hypothesis may, in truth, be so far better than nothing. But not much better; it leaves us in the unsatisfactory position not only of affirming that of which we can have no knowledge — which is bad — but of affirming a thing of which we also affirm that we can never have any knowledge — which is worse.

But will the social organism hypothesis meet this test of sole unifier of the facts? Are there other possible explanations? Are we yet compelled to resort to these devices of speculation and quasi-explanation? It is at any rate a crass abuse of hypothesis if it be made to stand as an obstacle in the way of the search for an explanation in terms of what is already known. A hypothesis can never be employed as the refutation of any offered explanation, as answer to it, or defense, or objection; it holds its place by tolerance — by the mere negative fact that nothing else is available. It has no evidential quality or argumentative validity. It is rather a standing promise of abdication in favor of anything that can make an affirmative case. It is an invitation and an exhortation to continued research and to constructive effort.

Does, then, the social organism hypothesis fit the facts of a competitive society? It might do well enough — if nothing else would — for the collectivist or socialistic form of organization;

down, together with the distinction between rent and interest — land incomes and other incomes — in relation to cost of production; that all the different incomes accruing from

but does it express the divisions and antagonisms of interest and activity characteristic of a competitive organization — the preying of cell on cell? When, at the equation of market price, a bushel of wheat is exchanging against a dollar of gold, shall we abandon the demand schedule with all of its different items of offer of gold, and the supply schedule with its different reservation prices — each item of price offer and of supply having its distinct explanation in individual comparisons and individual choices of alternatives — and shall we, pronouncing all these unactual and inadequate, a hopeless quest, betake ourselves to the explanation that society, in its organic unity, has appraised gold separately as a value, and wheat separately as a value, and has found them equal as values, so that now an equality in exchange relations can occur? Or, if a football coach is accorded a salary of a thousand dollars a month and an instructor in Economics a salary of a thousand a year, shall there be offered, as ultimate and final explanation, the statement that society, the world at large, or the Universe, organically approves or appraises or values one service twelve times as highly as the other? And if a highway robber gains $200 from ten minutes of daring and a cellar digger two dollars for 600 minutes of boredom, it will be evident that society appraises the pains and waitings of the one at a worth of $20 a minute against a worth for the other of $\frac{1}{3}$ cent a minute. And when the monopolist, by producing half as much product, gets twice as much gain, it will be clear that society evaluates the half at twice as much as the whole — the interference with production at double the contribution to production. There should evidently be somewhere a social insane asylum in which to confine the social organism. So when the lawyer, skillful in advising his clients how legally to do illegal things, gets especially generous fees, this shall be the proof that society finds his services to be highly beneficent. When canned poison brings 20 cents per can and canned corn half as much, this shall be taken to be the idiotic judgment of the aggregate social idiot. By similar devisings, also, are to be explained the dear cheapnesses, the adulterations, the lying advertisings, the prostitutes, the vice trusts, the gambling syndicates, the purchased judicial honor, the offices sold at a price, the elections bought by money for gain, the speculations, the sinecures and the graft; society is organically plundering its organic self, buying itself, selling itself, lying to itself, poisoning itself, making (part of) itself rich at the expense of (part of) itself. And all these market prices and all these individual gains shall stand — by proof of hypothesis — as the appraisals of the racial judgment.

possessions with passing time are to be termed interest, so soon as the source of the income is expressed as a money value, a price item, and the income expressed as a rate per cent upon the price of the source; that as the fund derived from the sale of a farm may be invested as an item of loan fund, which now earns interest in place of the rent which the farm earned

But to many men who accept the point of view of the social organism, the foregoing criticism will appeal as mere travesty. They mean none of the things charged against them. They do not take society to be a great animal — either male or female, or both or neither. All that they mean is that men in society are in mutual relations of influence and interaction, that each man has truly his individual tastes, choices, desires, demands, costs, sacrifices, hopes and fears, but not separately in the sense that any one is free from the influence of others and of their shaping power — free, that is, from the social *milieu* in which he has lived. We want clothing as much because other people's glances beat upon us as that the sun's rays scorch us. We desire the admiration, the approval, the fear, and the envy of our fellows. Of this sort may be most of the significance of palaces, carriages, champagne, or neckties. We never act or think or feel in isolation. We are individuals *in a society*. In a sense, therefore, the individual's desires are social in their derivation: Utility to the individual is a social utility.

That so much as this is true must be admitted; and let it forthwith be added that no one ever doubted it. But when one has a desire — no matter whence it came — it is his desire, and not the desire of the world at large. No matter when or where or how you get hungry, it is now your hunger, and not the hunger of the fresh air or the long walk that gave it to you. It may, indeed, be due to the fact that you have seen others eating. Even the feeling of being cold may be social in its occasion. But your cold is not thereby a social cold. You may, in truth, feel so much the colder as you see the people about you the more snug and smug. Your cold does not then translate into a social warmness. Your piety, again, may have been taught you; but it is not now the piety of your parents, or of the neighborhood, but only of yourself — even as a breakfast to which all climates have contributed is one man's breakfast rather than an international breakfast. Perhaps your brother's impiety has come as a reaction against the overpiety of his neighbors; but it is not now either a social piety or a social impiety. If you get the bubonic plague *via* some international rat, it will not be Asia or the rat or the world, but you that will be sick; and if you die, the funeral rites will be said over you. The resultant from a parallelogram of forces is not all of the contributing directions at once, but one definite new direction.

before, so a tenant may pay as rent on land the same sum that, as purchaser upon mortgage, he might have paid as interest, and the same sum that as borrower he might have paid upon the funds with which to purchase the farm; that distinctions

Note, finally, how far the interpretation of the social organism must go. If the fact that one's tastes and habits are copied from other men makes these tastes and habits not his but theirs; if the mists floating inland from the sea are still sea, the grain from the soil still soil, the soil that was rock still rock, the skippers in the cheese still cheese; if origin and genesis not merely shape and determine what a man is, but also define him in terms of themselves, make him them, absorb him, — we shall, by this route, arrive not at social estimates, social desires, and social values, but at cosmic judgments, cosmic estimates, and cosmic valuations. For to our contemporaries, truly, is due much of the shaping of us; but still more is due to the generation next preceding, or to all the endless past. Many also of our individual aims and activities have in view future human beings — our descendants or the race in general, their admiration, their approval, or their welfare. The social organism in the sense of *the directive society* must include all human generations of all races and of all times, past, present, and to come.

But if our quest is for origins — for directive, determining, shaping facts, we must include more than the influence of human associations past and present. We shall include as well all the past environment and no small part of the future — the storms of the past centuries and the storms that are yet to be — the wild animals that we have made our prey and the wild animals that have made us their prey — the malevolent microbes and the beneficent — the pestilences that have walked and are walking by night, and the fevers of primitive and of present noondays — all past climates and all past suns and all seas and rains.

Nor are we to forget that other suns and the most distant stars are raining their beams upon us and prompting us to poetry and romance and to scientific moonshine — and have been at it for countless generations, and will remain at it for some time yet. It follows that all the past and the future of the solar system and of all the stars in the infinite spaces are within the causal complex. There is nothing for it but to learn to think and talk of *the social cosmos*. And once having learned to think clearly in this emphasis, we shall shortly have the logical insight to see that the word *social* is mere tautology; we shall talk simply of the *cosmos*. And having found, as our great conclusion, that all things are explained by the cosmos, we shall — perhaps — return to our place of beginning, ready to fare forth, unincumbered, in the search for real explanations.

regarding the origin of different possessions have no relation to the price of the possessions, to the abstinence involved in holding them, to the uses which are made of the properties, or to the rates of return which they render on the investments; that, as salable by the owner, every durable good must represent a waiting by him, no matter whether he rents the property or uses it directly himself; that if the problem of origins really concerned the owner, it could in many cases never be solved by him, nor always trustworthily by any one else.

It is also clear that the thing that is lent in the capital market is suspended purchasing power, and that the abstinence that interest rewards is the abstinence involved in lending this purchasing power; that all other possessions lent for hire command only rents — a form in which the return is not expressed as a per cent, per dollar, per period; that there is in neither of these abstinences any pain or any necessary connection, direct or indirect, with painful experience; that therefore interest cannot express any equality of the lender's pains to the borrower's pleasures; that there is, in fact, no equality of anything involved in the interest relation excepting an equality of the ratios which, for the marginal lenders and borrowers respectively, must exist between the advantages and the disadvantages of the interest relation.

But it has been shown that notwithstanding all this, abstinence has to do with interest as one of the influences limiting the amount of purchasing power in society available for future purposes. Every abstainer has his separate marginal abstinence from present consumption, a margin affected on the one hand by the degree of the pressure of his present needs, and on the other by the advantages anticipated from the savings. The point, or margin, to which his saving will be carried, and the volume of his funds laid aside from present consumption, must be affected by the individual's total of income, the pressure of his present need, his prospect of future income, and his prospect of future need. The demands upon his present revenue are, then, (1) his immediate needs for present consumption, (2) his opportunities for investment in durable consumption goods, or in durable production goods or in gainful business generally, (3) the demands of others, for their immediate consumption, (4) the demands of others for any of the three forms of income-bearing investment.

But fundamental to all of these different uses is the amount of the present fund; how far the various demands upon it for future uses will absorb it must depend, in part, but only in part, upon the strength of his present needs, but in equally great part upon the advantages anticipated from the future uses. It is thus again evident that durable consumption goods are capital; they absorb present income for future purposes; they promise returns in valuable future services, which returns, when expressed in terms of price upon an investment of price, arrive at the typical interest statement.

It has also been shown that, while the "impatience," or abstinence temper in human nature might or might not, in given conditions, suffice to establish a market rate of interest, the existence of durable production goods or of other opportunities for gain would, in any case, necessitate a market rate; that an interest rate being already established, the opening up of opportunities for investment in production goods, or in any direction of gain, must increase the advantages going with saving, and must therefore modify the interest rate.

It is also clear that the investment demand for funds is the aggregate of all the different dispositions to obtain ownership or control of either durable production or consumption goods, or to enter upon gainful enterprise of any sort; that gainful enterprise takes countless lines of direction — some of them social and others anti-social — into anything subserving the ends of private advantage; and that the point of adjustment between demand and supply is the interest rate for the particular supply of funds.

And it has further been made clear that the interest rates fixed in this process of market adjustment can find no ultimate basis in the burdens or pains or merits of any lender and can express no quantitative sum of pain or loss or sacrifice to him, but can indicate only that, at his margin between saving and lending, the advantages of saving are equal to the disadvantages of lending; that the marginal saving of different abstainers can indicate no equality of burdens or abstinences or displacements between the abstainers; that likewise the marginal borrowings of different borrowers can express no equality of benefits between the borrowers; and that the payment of interest by one borrower to one lender, or by the marginal borrower to the marginal lender, does not express the quantitative equality of the gain or benefit or utility to the borrower with the labor or burden or pain or loss

of the lender, but only an equality of ratios for each of the parties, in his marginal saving or lending or borrowing, between the advantages and disadvantages involved. All the processes in the interest problem require a thorough individualizing; explanations by aggregates or averages or by the social organism are all equally inaccurate and inadequate, are all equally misleading in their conclusions, and are occasionally most vicious in their applications.

The chapter to follow will examine the relations of risk to cost of production, to interest, and to profit. It will make clear that risk is one out of a large number of costs not easily reducible to any of the traditional cost categories; that against many of the hazards incurred by the entrepreneur, insurance may be secured on terms of outlays which are plainly costs; but that many of the hazards are inevitably carried by the entrepreneur himself, *e.g.*, hazards of bad markets, of cut-throat competition, of restrictions of credit, or of entire withdrawals of credit, and of insolvency; that these dangers are the greater as the resources of the entrepreneur are less; that thus the smaller competitor has in many directions the higher percentage of costs — paying higher for such bank and other credit as he obtains, and being limited at the same time, not only in what he can get, but as well in what he can safely employ; that his competitors of larger resources or of better alliances in credit relations are able to obtain credit on cheaper and safer terms, and even to dictate when, if at all, he shall have it, and on what terms; that in this fact that the risk costs are more as the ability to compete is less, is illustrated the Law of Advantage and Size, later to receive full examination; that in larger part because of these greater risk charges and burdens, the small business tends to remain small or to be absorbed in some larger and more prosperous business unit.

The chapter will also show that to distinguish accurately risk charges from interest is difficult if not impossible; that interest, as the reward of the lending abstainer, or as his indemnity for foregone opportunity, or as a premium of present over future money, can leave no place for risk charges in the rate; but that looked at from the point of view of the borrower, the entire payment appears as the price of the advantage in prospect.

In other cases, risk gains are difficult to distinguish from

profits. If the hazard is one attaching to the invested capital, the return for the hazard is obviously rather risk interest than risk profit. And where the return is not more than the cost of the risk, there can accurately be no room for any profit or gain of any sort. Nor, finally, if profit be defined — as will on the whole seem best — as the remuneration of personal entrepreneur activity in the pursuit of gain, can risk returns make part of profit. Only, in fact, when the pay for carrying the risk outruns the cost of carrying it, as is typically the case in insurance, is there accurately gain of any sort; and even then it is not clear that gain from carrying risk should require a separate and special name.

CHAPTER XX

RISK, PROFIT, AND INTEREST

Risk may be a cost. — It is a commonplace that if all merchants could sell their wares always at cash, the prices of the goods could be lower to the buyers. Only such customers as paid would be able to get goods at all; there would then be no need that the paying customers should make good the defaults of the nonpaying. In the long run it is the customer who pays who foots the bill for the customer who does not pay. The poor accounts are really a part of the merchant's costs of doing business with the customers who pay. The selling price, therefore, includes a loading for the average risk that the bill cannot be collected.

It is clear, then, that there are costs in business other than the four cost categories with which economic analysis is familiar — wages, profits, rents, and time discounts. In addition there are taxes, and advertising, and royalty outlays, and ordinary insurance premiums; and there are also the costs of those risks which the business man himself must carry — not to speak of a wide variety of other charges.

Noninsurable risks. — The risks against which the business man either cannot or does not insure are many. There may, for example, because of his dubious credit, be higher rates to pay upon the funds that he borrows. He pays the more as he is able to pay the less: "From him that hath not shall be taken even that he hath." It is in this respect that it is especially well to be of the inner circle in financial institutions, to have a share in the management, or at any rate to stand high in the favor of the men who do the managing. Otherwise a competitor may enjoy the large loans at the favorable rates, or may have the advantage of special facilities for obtaining loans when he needs them most, or of hav-

ing them extended if he is ill prepared to meet them. Many projected enterprises, railroads and others, never get started because the credit negotiations are blocked by opposing interests. Or the favored business man may even be allowed to dictate the rates which his competitors must pay, or, not rarely, to decide when, if at all, the loans shall be granted, or, still better, to determine when these loans shall be called. His competitors are made to pay well for what they get and, even on these terms, may regard themselves fortunate to get anything.

Affiliations and costs. — These risk-costs of the business man, in view of his facilities for meeting and disposing of risks — the significance, that is, of credit and of credit affiliations — are thoroughly well recognized in the business world, are of enormous significance for business success and business gain, and are yet strangely neglected in economic literature. It is, indeed, commonly asserted that any business man, able, energetic, and trustworthy, will always find at his disposal whatever " capital " he needs.

Risk-costs of weak competitors. — The fact that the small business does not get larger is so much a commonplace that the implications from it are likely not to be recognized or the meaning of it realized. The small business, whether shop or factory, is often at some disadvantage against a larger competitor by the mere fact that the small is small and the large is large. The larger concern can buy more cheaply, manufacture more economically, sell more closely. In many enterprises there is pronounced advantage going with the size of the business unit. The elimination of the small competitors and the progressive increase in the size and power of the larger are striking facts in modern business. The larger gets still larger because it is large in the beginning: the smaller dwindles because it was originally small.

But if the handicap of the small lies in the sheer fact of its smallness — precisely as the curse of the poor has been said to be their poverty — why does not the small business forthwith make itself bigger, as, we are informed, it easily could? Why is it that so many men and firms and corporations suffer for lack of capital, that the undertakings are

unprosperous or poor or failing by the mere fact that they are small? Or, take it, even, that a business is prosperous despite the fact that it is small: why cannot the proprietor extend it? If only he had the "capital," he could easily double his operations, and possibly also at a higher rate of gain upon each dollar of his larger volume of business. There are banks enough, and lenders enough: why need he lack for funds?

Differential opportunity. — Precisely here come in the meaning of credit to the business man and the importance to him of the amount and rate and time and temper of the loan. In this aspect especially, is it important to have favorable affiliations and connections and communities of interest. To belong to the right group is to enjoy great differential advantages and to possess the key to business opportunity in general. There is far more in credit than mere good repute for wealth, cautious business methods, and faithfulness to obligations.

Risk limit on size. — Thus, it may be that the business man in question may not be able to command the resources by which, if he could get them, his gains would greatly increase, and for which, if he could get them, he might afford to pay a generous interest charge. His business remains small merely because it is small.

Or if he gets the funds, he may be obliged to pay so high a rate for them, or so to hazard his control of the enterprise, as to prohibit any move toward expansion. This is a class of risks which the entrepreneur cannot get carried for him by others at any level of premium. The lender takes a risk, it is true, and the borrower pays him for it; but the borrower's risk is not thereby the less, but the greater. And the more he tries to extend his business upon a given basis of capital and responsibility, the higher he will commonly have to pay for the funds that he borrows. On these terms the advantages which go with size may be speedily exhausted.

More responsibility, less risk-cost. — The total of the entrepreneur's net individual wealth is, in fact, an ultimate guarantee fund, a sort of margin, which, as finally and solely liable for the losses of his adventure, not only affects the

rate and terms on which he can get funds, but also limits the amount which he can get.

And more importantly still, his reserve of net investment limits the funds which, consistently with safety, he will be willing to borrow. To extend his operations may indeed be gainful, if all goes well. But he must beware of water beyond his depth: he must avoid so much sail as to risk the foundering of his boat under any sudden puff or gust or stress. Or — changing again the figure — he must keep his lines of retreat open. If, instead of things going well, as he believes they will, they go ill, as he knows they may, he must be prepared for the emergency. Panics may come when, even though a favored customer, his bank cannot protect him. Or the bank itself may suspend or fail. These are dangers which in accurate business computations are costs; they are the greater as the ratio of operations to ultimate responsibility becomes higher. When costs of this sort are properly allowed for — when the business man adequately recognizes as costs what the economist rarely recognizes as costs at all — the marginal limit of production is easily reached. To carry his adventure further would be to assume a further risk of loss disproportionate to the promise of larger gain.

Hazard, cost, and profit. — The principle that hazards of loss are costs has many illustrations. The unharvested crops form, in the long run, part of the cost of the harvested crops; the prospecting which discovers no treasure is cost for the treasure that is discovered; the blanks in the lottery must indemnify the management for the prizes. "We are not at liberty," as Marshall remarks, "to treat the high earnings of successful men as rent without making allowance for the low earnings of those who fail."[1]

It is evident that when the compensation for risk is only sufficient to cover the risk, there is no room for profit in the accurate sense of the term. Profit from the carrying of risk can emerge only when the cost of the carrying is less than the remuneration. Accurately, the speculator's so-called profit is merely the correlative of the risk assumed rather than a reward for skill or effort. One who tosses a penny and wins, obtains a remuneration for

[1] Alfred Marshall, *Principles of Economics*, 4th ed., Book 5, Chap. V.

assuming the equivalent chance of loss. The buyer of town lots for a rise is paying the sum which the market fixes as the price of the property in view of the chances both of rise and of fall. There may, of course, be exceptional skill or exceptional information on the part of the operator; so far as this is true there is room for profit as the reward for his activity. But, in the main, what the operator gets more than a mere interest return is received as gain upon a fortunate wager. Nor does the term *risk profit* cover the logical objection. When one lends "capital," he charges something extra for risk and calls it interest, or risk interest. He gets more if he gets anything, because of the danger that he will get nothing. The extra charge is a premium upon the risk accepted — an increment in excess of true interest on the investment — because of the hazard that there may be neither interest nor principal. But the risk charge takes the form of a rate per cent computed upon the principal sum, and is paid to the lender together with the use charge. Thus it is easy to confuse it with the use charge and call it interest. If, however, a surety company had carried the risk instead of the lender — had guaranteed him from loss and had charged him a rate per cent therefor — the real nature of the transaction would have been evident.

It is clear, then, that, viewed as the reward of abstinence, interest cannot include the risk share in the amount received. Viewed as any sort of compensation to the owner for an opportunity of investment foregone, risk must be excluded. And as the difference between the present value of goods and their future value, interest cannot cover risk; only as the difference between a *certain* present value and a *contingent* future value could the risk charge be included in interest.

Adopt, however, the standpoint not of the lender, but of the borrower, and the question takes on another aspect; interest becomes a payment for the use of wealth, or, more accurately, a payment for the difference in desirability, to the borrower under consideration, of present over future goods — or, more accurately still, of present over future purchasing power as reckoned in the prevailing standard. For the marginal borrower the interest is the approximate equivalent of this difference.

That is to say, the risk payment is received by the lender in one character and is paid by the borrower in another. It advantages the marginal lender nothing or nearly nothing; the risk fact may, in truth, diminish his net or pure interest, by its effect to retire some part of the total demand; it burdens the borrower as a cost; it is like a tax imposed on the loan relation.

Gains from assuming risks. — To whom, then, goes the gain to correspond with the aggregate of loss to borrowers and lenders? It does not necessarily follow that the entire benefit of this intermediate quantity — this tax — accrues to the defaulting borrowers. There is room for lenders' surpluses in the relation, — that is to say, there may be, in favor of the nonmarginal lender, a differential between what it really costs to carry the risk and the compensation which the market premium upon risk allows. And this differential is the only case of true risk profit in the interest relation; subject to this modification, the premium is the precise equivalent of the accepted danger of loss.

Terms appropriate to the relations. — But it remains to decide what name shall be given to the entrepreneur's return for his risks. It is often regarded as a portion not of interest, but of profit. But as it is evidently not remuneration for the personal factor in production or in business activity of any sort — not pay, that is, for labor of superintendence or for any other form of effort, but only compensation for the danger incurred of failing to get compensation — there is force in the view that the special category of *risk profit* should be recognized. The objection to this is, as we have seen, that, just as when one lends his capital he charges something extra for risk, and calls it interest or risk interest, so when he puts his own capital at risk in his own business, he should, it would seem, reckon his risk gain as compensation for the hazardous capital use — another form of *risk interest*. The losses of an enterprise must ordinarily be paid out of the operator's wealth. Profit makers pay losses, when losses come, in the capacity of wealth owners and not of mere operators.

But it has still to be recognized that the thing at hazard is not necessarily and solely the capital invested. The operator may, indeed, be investing nothing but his time and effort; or his hazard may be such as to extend no further than the value of the time and effort devoted by him to the enterprise.

There is, then, room for a concept of risk wage; and for this there could be no valid objection to the term *risk profit*, were the term *profit* not already overweighed in point of duties and overclouded with accumulated ambiguities.

Risk interest, then, should be extended to cover not merely the hazard compensation of actual lenders, but also compensation for the hazard of him who adventures his own resources under his own management.[1]

[1] Cf. Veblen, *Theory of Business Enterprise*, pp. 120–130, as to the difficulty of finding a time unit for the hazards and gains of high finance.

Social welfare, proceeds, and profits. — The question remains whether the term profit shall serve (1) merely for exceptional, unclassified, irregular gains — *conjuncture profits* as they have sometimes been called — or whether, on the contrary, the term should stand (2) for the broader notion of compensation for the independently working human factor *in production*, or (3) for the still broader notion of compensation for the independent human factor in *the quest for gain.*

For it must be noted that here as elsewhere there is danger of confusing the socially productive aspects of business with the competitive and gain-making aspects. Number (2) would conceive profits as compensation for independent productive activity, and would thus make no place for a large part of what fall under the general head of conjuncture gains, but would stand, rather, as an opposed and alternative notion. Number (3), the competitive view, would harmonize (1) and (2) by including them.

It has been the writer's preference to use the term profit in this third sense as denoting, that is, the compensation falling to independent business activity after such apportionment as is possible has been made for rent, interest, wages, and other outlays. In this sense, profits stands as merely one form of the remuneration of labor and is thereby a subhead under the broader interpretation of the term wages.[1]

Profit, as a form of wages, then, points to *gain without the intervention of an employer;* it is, then, remuneration to the entrepreneur for entrepreneur activity as such. This profit goes, no doubt, to him who takes the risk, but does not, therefore, go as compensation for the risk or in proportion to it. It is, indeed, in the very nature of entrepreneur labor that it is the labor of the risk taker.

Speculation, gambling, and underwriting. — There are, however, gains which are made through the business of carrying risks. This is the field of underwriting, of which fire, life, and accident insurance are the most familiar illustrations. The underwriter's gains accrue through the margin of difference between the cost of carrying risk and the compensation which is received through the market pre-

[1] And wages, it should be remembered, are not derivative solely from technological or other productive activity. I may pay my wage earner to destroy your property or to besmirch your reputation.

mium upon risk. From the point of view of the underwriters, indeed, the risks mostly merge into the certainty of the general average. The wider the field, the smaller the risk. Toss a penny once and the outcome is entirely one of chance — even chances of heads and tails: but in an infinite number of cases the chance disappears in the certainty of an even number of heads and tails. Insurance is, then, theoretically a traffic in risk without risk to the traffickers.

From the point of view of the insured, also, insurance differs from gambling by the fact that insurance is a contract under the terms of which no gain, but only indemnity against loss, is possible. Gambling may be a fair contract, but must be — if a fair contract — a foolish contract. The law of falling utility applies for each individual to his income or to his money, for the very reason that it applies to the various different things for which income or money may be spent. To add $10 to the $100 that one has, is a gain smaller than would be the loss suffered by losing $10 out of the same $100. The gain is one that attends the 11th ten dollars; the loss is the loss of the 10th ten dollars. But the insurance contract precisely reverses the gambling principle and deduces advantage from this law of falling utility. If you were assured of three meals a day for the next month, but faced one chance out of a hundred of having nothing to eat the following month, you could well give up one of the three meals for the first month in order to be guaranteed against starvation for the second. This would be to pay 33 times the mathematical value of the risk. So, with a $10 premium upon a $1000 fire policy, the policyholder gives up his marginal and relatively unimportant $10 of income in order to be guaranteed against the possibility of the loss of units of much higher rank. The aggregate significance of the entire $1000 is indefinitely more than $100, times the importance of the marginal $10. If, therefore, there be one chance in 200 of losing the whole $1000, the policyholder may well afford to pay $\frac{1}{100}$ of $1000 to be protected against this chance.

The gains of underwriting are, then, due to the difference between what it costs to carry a risk and what it is worth to get it carried. But it does not follow that the gains from underwriting are properly to be called risk profits. As well call the gains from calico manufacturing calico profits, or from fishing, fish profits.

In point of fact, risks divide into two classes : (1) where the danger of loss has no correlative aspect of possible gain, and where, therefore, the problems are solely (*a*) as to whether the hazard is one that can be shifted, and (*b*), if so, who shall carry it — cases which easily lend themselves to the business of making gain off the carrying of others' risks — and (2) where the possible profit and the possible loss are somehow in the market equated one against the other : these are cases which lend themselves readily to speculation and to gambling.

The causal relations of risk to business gains having now been discussed, the next chapter will in large part concern itself with gathering together the scattered threads of the interest argument. Nothing new will be attempted further than to make clear that there can be no one world, or even market, interest rate, — a fundamental rate of net or pure interest variously modified by additional charges for various times, places, and conditions. The fact will, on the contrary, be shown to be that there is not even one rate for any one town for any one day. It was, indeed, as leading up to this point in the analysis, that the discussion of risk was undertaken in this chapter.

CHAPTER XXI

CAPITALIZATION AND DISCOUNT RATES

Exchange media. — The current circulating medium includes — as we have seen and shall later more fully see — not merely all forms of money, but those credit substitutes for money in actual employment as media of exchange. Money and circulating credit combine to form the aggregate of currency — the aggregate circulating medium. The two together make up the volume of suspended purchasing power in society. Any commodity sold by its owner places him in command of this currency, this suspended purchasing power. This suspended purchasing power is, in turn, available for acquiring immediate or durable consumption goods, for investment in gain-promising directions — productive goods or what not, — or for lending to borrowers. The loan fund of any time is that part of the aggregate fund of suspended purchasing power which the possessors are disposed to lend. This loan fund we have seen to be the subject of capital borrowing for interest.

It is, then, evident that the activities of deposit banking institutions are closely connected with the volume of loan funds existing at any particular time. Any further examination of the banking function is not possible here. But so much as this is evident: The discount of a customer's note is an operation by which the bank furnishes the customer with a demand upon itself available as immediate purchasing power. He uses this purchasing power by assigning to some one else his right of immediate demand against the bank. The result, then, of discount banking is to put into circulation a great total of currency. The deposit credits thus created are loan funds in the hands of the holders to the extent that this use of them is chosen.

Whether or not it be decided that the lending function of the banks is itself an influence upon the interest rate, or rates, of the market, and whether, if so, the influence in this direction is effective not merely temporarily, but permanently, or whether, on the other hand, the only long-time effect is upon the general price situation need call for no further discussion. This much is at all events clear.

deposit currency constitutes a large part of the existing loan fund of any particular time.

Hoarded Funds are Capital. — Whatever currency an individual receives, either as current income or as the sale price of existing possessions, he may dispose of in various ways. So far as he directs his funds to provision for the future, he may accomplish his end by merely hoarding the money, or he may invest it in long-time consumption goods, or in production goods, or he may lend. In any case, his savings are part of his private individual capital, no matter what disposition the borrower may make of such of these funds as he borrows.

Private capital and social wealth. — But it has already been made clear that there is no necessity that the increase of the private capital of the lender involve an attendant increase of social capital. The loan may have been used by the borrower for consumption purposes, spendthrift or other. Or the borrowing may have been by the State for the financing of jingo wars or of administrative deficits. In short, there is no necessary equivalence between the totals of social capital and of private capital. It is true that in some cases the capital credited to one individual is a debit elsewhere. But it has been pointed out that this is not necessarily the case — that government debts are commonly demands against the earning power of future generations. Likewise, the capitalized value of a franchise or of a monopoly or of a patent — another sort of a monopoly — appears nowhere as a debit against individual wealth.

The ambiguities in the term *capital* are especially dangerous in this connection. Savings are private capital; but whether they ever come to express themselves as an addition to the total social capital depends upon how the savings are used. The saver commonly lends his savings. He is not a capitalizer from the social point of view. And the savings which he lends, even though not spent by the borrower for consumption purposes, may be used by the borrower in the creation of that which, though capital for his own purposes, is not capital in any social accountancy — *e.g.*, in the creation of a monopoly, or in the advertising expenses of a publicity campaign.

Saving and growth of social wealth. — The truth is, then, that saving may be a condition precedent to the increase of either private or social capital, but that social saving involves as a further step the direction of the savings to the creation of social capital. Savings in the form of mere purchasing power are mere rights of control over wealth or labor. Whether social capital shall emerge must depend upon the direction of the control. The decision commonly

rests with the borrower. Banks create — at least for temporary purposes — these rights of direction. Their chief function is in the redistribution of purchasing power. This redistribution is effected through supplying to the borrower a credit which, entering into general circulation, is an item of currency expansion.

The amount of loan fund in any society or in any market is, therefore, more a question of the organization of the credit situation and of the distribution of the individual wealth in society than of the aggregate social wealth. The great centers of loan capital are the banking centers.

Not one but many interest rates. — We have also seen that over against the aggregate supply of loan funds are the various demands for loans, for all sorts of purposes, with all degrees of hazard to both lender and borrower, and for various periods of time. It is, then, inevitable that there should be many differences in interest rates, not merely at different times and in different districts and countries, but in each different district and center, and for different classes of borrowers, and for different borrowers in each class. Some money lenders consent to lend part or all of their funds for short terms only. Some of this short-term lending is upon demand — call loans, as they are technically named. In this last case the rate is commonly very low. Loans, also, for long-time investment are likely to command low rates, though not so low as call loans. Excepting on call loans, bank rates of interest rule appreciably higher than other rates. One reason for the higher bank rate is in the convenience to the borrower; another reason is in the administrative and clerical expenses of the banking business. This fact of an expense loading in the bank rate is probably the main explanation for the higher charges in rural communities where banking operations are of relatively small magnitude.

Rates and capitalization. — Evidently, then, there is no one market rate of interest, even in any particular locality — still less for different localities. There can, then, be no one market rate underlying different individual bids in the capitalization process or employed as the basis of them. It has, indeed, been made clear that each individual has his individual and peculiar process of arriving at his possible bid for any desirable good, and that any discount rate to be ascribed to him must resolve itself commonly, though not of necessity, into a mere general comparison of the desirability of the proposed investment as against the most de-

sirable alternative method of using the purchasing power at his disposal.

The relation, then, of the rate at which, if one borrows, he must borrow, and of the rate at which, if one lends, he must lend, to his individual attitude toward any proposed investment, is obvious. Clearly he does not accept any one of all the different market rates as his basal rate in the discount process leading to his bid. Doubtless, however, whether as the cost of his borrowing, or as opportunity for his lending, these rates have the closest possible relation to the fixation of his bid.

The circuity in the capitalization doctrine. — And just here, also, is the exit from the logical circuity which has long perplexed the analysis of capitalization. The rent problem is easy enough of solution, as the mere market value of the use of durable wealth. But the rent problem and the interest problem are not one and the same problem. There is no telling what interest a rent-bearing property earns until the value of the property is fixed. Rent is interest when, and only when, it is expressed as a percentage of the price of the property. But how arrive at this price otherwise than by an appeal to the very interest rate which only a moment since purported to be deduced from the ratio between the total value and the value of the time use?

Different men, different rents, different discount rates. — The truth is, however, that there is no such interest rate. There is only the earning power of different investments, all of which, under the competitive bidding of investors, come to offer in any district not widely different rates of return for similar grades of risk and for similar periods of investment. But note that the field of possible investment is not confined to the purchase of durable goods — rent-bearing properties. There are in addition all sorts of pecuniary activities, speculation, merchandising, advertising, promoting, and the various professions — all of them calling for funds. So far as any interest rates are relevant to the capitalization process, they are the rates which together equate the whole volume of investment opportunity to the aggre-

gate supply of loanable funds. Interpreting abstinence to mean no more than the disposition not immediately to consume, interest rates are the points of adjustment between the supplies of funds and the different borrowing demands. The bid of any individual for any item of durable property is concerned with interest rates only as the cost of the fund which he invests or as alternative opportunities of gain in the investment of his funds. The interest rates derivative from the total situation come, then, to bear, through competitive bidding, upon the market price of each particular item of property in such fashion as to equalize the objective and impersonal advantages attaching to one as against another property.

The examination of interest and of the connected problems having been completed, the discussions of the next chapter will return to a consideration of some of the more general problems of theory, and especially of the doctrines holding that there are only three classes of productive factors, land, labor, and capital; that there are only four classes of cost of production, rent, interest, wages, and profits; that, as costs of production are limited to four, so distributive shares are limited to the same four; that these four distributive shares are assigned exclusively to the three productive factors, land, labor, and capital; and that the distributive process involved in entrepreneur production accounts for the distribution of the aggregate income of society.

It will be shown that, on the contrary, the costs of production in actual business are legion; that many of them are not rationally to be classified under any one of the four heads of wages, interest, rent, and profits; that many of these costs are expended in directions not rationally to be classified under any of the three heads of land, labor, and capital; that many of the costs are expended for things which are not factors of production at all in any mechanical or industrial or technological sense, and which are actually not classified as any one of these in traditional economic discussion; that many of the costs are expended in directions actually classified as technological when they really are not so; and, finally, that the factors which are accurately technological are not susceptible of classification into the categories of land, labor, and capital, or into any other definite cate-

gories, since in degree and in kind, the varieties are beyond enumeration and are in constant change.

The argument of the chapter will therefore strongly reënforce the conclusions of earlier chapters condemning all attempts to distinguish land from other instrumental goods in relation to cost or price or interest or capital.

CHAPTER XXII

CLASSIFICATION OF THE FACTORS OF PRODUCTION

The scope of cost outlay. — We have seen that the entrepreneur, in producing goods for gain, apportions his outlays into a variety of investments — labor, land, machines, tools, raw materials, seed, light, heat, power, patents, royalties, taxes, insurance, advertising, transportation — and so on without limit; that all of these different outlays are equally costs in the sense of price expenses submitted to in the prospect of price returns to come; but that these different outlays in price do not complete the catalogue of costs; there must be included a price charge for the entrepreneur's own labor — his necessary profits, in view of his alternative openings and in view also of any exceptional burden, or stress, or disrepute, or risk of bodily harm, involved in the undertaking; that, together with these risks and resistances, there must be included charges for those hazards of pecuniary loss which he is either unable or unwilling to get carried for him by others; and that, in addition, he must compute not only his interest outlays upon borrowed funds, but also a time charge upon the aggregate investment of his own resources in land, equipment goods, finished products in stock, and in credits and general operating funds.

The objects of outlay: Bases of distribution. — What, then, can the economists mean in confining costs of production to wages, profits, rent, and interest, and in reducing all the different factors of production to the corresponding categories of labor, entrepreneurship, land, and capital?

But this fourfold classification of costs presents, at its next step, still greater perplexities: Recalling that costs to the entrepreneur — some of his costs, at any rate, like rent, wages, and interest — are distributive shares to the recipients, we arrive at this astounding doctrinal climax: that the entrepreneur process decides and apportions the distribution of the entire income of society, and that the aggregate social product is accounted for and distributed under

the four entrepreneur categories of wages, profits, rent, and interest.

The traditional view examined. — Not at all denying that wages, rents, time discounts, and necessary profits are cost items — when they are incurred by the entrepreneur in the productive process — or that as costs to him they are distributive shares out of the value of the products sold, it is still to be remarked that there are capital funds as well as capital tools, monopoly capital as well as machine capital, franchise rents as well as land rents, publicity investments as well as investments in salesmen's salaries. Can all these different outlays be distributed within the rent, interest, wage, and profit classifications, and all the bases of these outlays be distributed as land or labor or capital? And even admitting this to be possible, are all distributive shares in society to be so accounted for? What, for example, about interest upon consumption loans, or about gains from tax farming contracts, or from patents or franchises? True, all these investments are capital, but they are evidently not capital in the sense of factors of production serving as auxiliaries in the process of making things. And how about countermoney and balances at the bank? True, these also help; these also are capital; but not in the technological or mechanical or industrial sense, according to which machinery is capital, and according to which land and labor are factors of production differing each from the other. And in what classification — land, labor, or capital — shall the money and the bank balances and the patents and the franchises be distributed? Surely each and all cost money; but so does land. Surely they require capital to buy them or to hire them; but so does land. And of what sort, after all, is this capital that is invested in them? Is it machinery as distinguished from land? or capital in any sense to identify it with machines and to distinguish it from labor or land? It is, in fact, capital, but precisely that form of capital which is invested indifferently in lands and machines and rents and interest and wages. It is capital in that private and acquisitive sense that has nothing to do with capital as a factor of production, and is, indeed, irrelevant to all tech-

nological classifications. Upon the basis of these nontechnological forms of capital, as well as upon the technological forms, the distributive process partly takes place.

By what strange process of reasoning, then, were this fourfold classification of factors and these derivative doctrines of cost and distribution arrived at?

The traditional view collective and genetic. — But the case will not look so strange if regarded in the large and from the social point of view. The wealth of any isolated individual, his total of belongings, must be made up of the original environment plus what he has added to it. The productive power which he wields rests in part upon his own personal efficiency, the organism side; in part upon the productive efficiency of his possessions, the environment side. In the nature of the case he can have no other sources of product. And precisely so with society taken in the aggregate. All production must be due to human energies in conjunction with human possessions. Therefore, all product must be (1) returns upon labor, that is, wages or profits, or (2) returns either on (*a*) natural environment, that is, land rents, or (*b*) artificial environment, other rents.

Could anything be simpler? or more logical? or more philosophical in its grasp of fundamentals? But, unfortunately for theorists and theories, we are in a competitive society, into the language of which the collectivist doctrine need not translate, and upon the phenomena of which the collectivist analysis may throw scant light. We are in a society in which the property bases of income are something more than lands and machines, in which the processes of production are something more than mere technology, in which the products are more than material things. We are in a régime of price for individual gain, where patents and franchises and monopolies are capital; where burglars' jimmies are production goods; where advertising is one of the costs of product, insurance is a necessary business, gambling a trade, speculation a career, circumventing the law a profession; where products are merely salable things, — meat, bread, and cloth, truly, but likewise stocks, offices, talk, music, moving pictures, acrobatic antics, spiritualistic

revelations, quack diagnoses, phrenological charts, and humbugs in general; where restriction of production is often more gainful than technological production; where wages may be had for demoralizing the public taste, or for slandering the opposition candidate, or for corrupting the judge or jury or legislature, or for poisoning a neighbor's well or cow, or for setting fire to a competitor's refinery. In short, we are in a competitive society, most of the serious problems of which sum up into one great and inclusive problem, how to limit the receipt of private income to the rendering of social service.

Traditional view technological, but untrue to technology. — None the less, there are many undertakings in which the entrepreneur is engaged in the technological process of placing material things upon the market. He is employing laborers and different sorts of instrumental goods, *e.g.*, land, machines, fuel, raw materials. Here are various factors of production engaged in a technological process, coöperating under the entrepreneur's direction in the putting forth of a joint product, and sharing somehow in the returns from that product. Perhaps, also, the entrepreneur, from whom as an employer the different factors receive their distributive shares out of the product — shares which to him are costs — is himself taking part as a laborer in the industrial or mechanical process.

Here, surely, there are, in the technological sense, factors of production which are recipients of distributive shares by title of contribution to a joint salable product. But will these factors classify as labor, land, and capital? and will the remuneration distribute into the corresponding categories of wages, profit, rent, and interest? Are there not other factors in the process? and are there not other distributive shares than the traditional four? Even in a purely technological enterprise, is it possible to distribute the factors into this three- or four-fold classification, with their respective remunerations falling into the corresponding categories? How many factors of production are there? and what are the principles of likeness and of difference?

These questions were in considerable part answered in Chapter XI, where the distinction between land and capital was considered. It was there shown (1) that no one of the distinctions commonly urged — and commonly applied all together — is logically tenable and practicably applicable, and (2) that, in a competitive entrepreneur economy, no one of these distinctions would matter, even were it tenable. At the most, land would rank as one among many different forms of capital.

Many kinds and degrees. — But it still remains true that, from the technological point of view, there are many classes of goods differing, for entrepreneur purposes, sometimes radically in kind, and commonly differing more or less in degree. That there are differences in kind is evident: In market gardening, as in grain production, there must be seed to go with the land and labor to go with the machines, no matter how dear or how cheap the land or seed or labor or machines may be. But along with these differences in kind there go differences in degree. More machinery or more fertilizers or more labor will in some measure make good the lack of land. If wages are high, the pressure is strong for the introduction of machinery; if machinery is dear, labor will be the more employed in its stead. In countries of low wages, as, for example, in India or in Mexico, the entrepreneur finds the machine method of production the more expensive. In a slave-holding society, labor is likely to be used in place of the more expensive labor-saving appliances. But despite the fact that, with every change in the relative prices of factors, substitutions and redistributions of factors are taking place, it is still true that the principle of substitution is not indefinitely applicable. There are margins of choice in the application of expense to the various factors — margins that are constantly shifting with every change in the arts of production and in the relative prices or hires of the factors. But, in any given situation, the limit of practicable substitution is easily reached, though this limit must be differently drawn by different entrepreneurs. Were, indeed, these substitutions possible of indefinite extension, if machinery costs could be fully and entirely

substituted for labor costs, if additional labor could avail fully to atone for the shortage of land, if machines did not require attendance, and if horses did not need drivers, there could never set in any relative shortage of factors, and no disadvantage could ever attach to any possible proportionment of the different productive factors. Were it, for example, always and without disadvantage possible to increase the labor investment upon any given piece of land, no land shortage could ever manifest itself, and rent must disappear. If outlays for more machinery, or for more expensive machinery, could go on indefinitely without the call for more labor to go with the machinery, — if, that is to say, machine expenses could fully and everywhere take the place of labor expenses, — developing invention would finally deprive labor of all employment.

Evidently, then, differences of kind exist side by side with differences of degree. Were differences in degree not present, substitution would be impossible. And were there no differences in kind, there could never be anywhere a disadvantage from an increase of expense upon a fixed supply of land, or any loss from 20 laborers working at one loom, or, for that matter, any reason why an indefinite number of wagons should not dispense with the need of horses and drivers.

Technological differences in kind, it must be admitted, are in many cases so marked as almost to prohibit the possibility of substitution. But distinctions that are technological are not necessarily economic. (See Chap. XI.) And it must now be pointed out that these actual, important, and obvious technological distinctions between the different bases of production not only fall short of justifying the threefold classification into land, labor, and capital, but really extend so far as to cancel all possibility of this classification. It was earlier shown that the differences and specializations are in fact as marked between one item of land and another, or between one item of capital goods and another, or between one laborer and another, as between capital goods and labor, labor and land, or land and capital. (See Chap. XI.)

Number of classes indefinite. — The truth is, therefore, — and it must be met and accepted, — that if the factors

of production are to be distinguished according to technological tests — as, for certain purposes, they clearly must be — it will immediately become necessary to recognize not two or three, but countless classes and varieties of productive factors. There are lands especially adapted to different crops — some of these lands adapted only at a great loss to any other crops — and lands of different grades for all of these different adaptations. And there are timber lands and mining lands and grazing lands and hunting lands and fishing waters. Other lands, again, are good for nothing but for building purposes, others good for nothing but wharves. And among the building lands there are lands for shops, for residences, for factories, for warehouses, and for railroad yards. And many of these purposes are not even in the widest sense to be regarded as technological.

And so with machines: There are talking machines, flying machines, spinning machines, sewing machines, mowing machines, traveling machines, and fishing machines — machines of many different sorts and grades, for watch-making, for cigarette making, for milking, for massage, for music, for adding, for multiplying, for tree cutting and for leg cutting, for killing, and for resuscitating. Why rank all these as technologically one, and term them all capital purely by reason of their alleged industrial functions?

Numberless and changing interrelations: Machines. — And not merely this: there are all sorts of technological relations among machines and appliances — relations of *substitution* and of competition, of *interdependence* and of mutual need. The instances are many in which one kind of a machine takes the place of another, competes with it, limits or changes its field of application, sends it to the scrap pile. Electric lights are displacing lamps and gas and coal and refining plants. As the cable car displaced the mule car, as the automobile is displacing the carriage and the street car, as the electric car is displacing the locomotive, so the aëroplane may some day take the place of all the others. Possibly not less numerous are the cases where the existence of one machine creates a field of uses for another machine: recall how the power loom waited upon the spinning jenny.

With labor. — The same variety of relations — now of substitution and now of interdependence — is found among laborers relatively to one another and among lands relatively to one another. More masons call for more hod carriers, more carpenters for more masons, more day laborers for more supervisors, more agriculturists for more artisans — and so on without limit. On the other hand, the more typists, the fewer amanuenses; the more linotype operatives, the fewer typesetters; the more chauffeurs, the fewer coachmen and cab drivers. As the physician has taken the place of the magician, so the surgeon may some day displace the physician — or the other way about — or the bacteriologist displace both. Why, then, classify all labor as one?

Likewise with land. — The coal lands displace the woodlots. New fisheries would probably lower the demand for pasture lands, and perhaps intensify the demand for cereal lands. More agricultural lands will call for more packing-house sites, for more railroad rights of way, for more city terminals, and for more town lots for city dwellers.

Interdependences and substitutions between classes. — That these relations of mutual need on the one hand, and of competition and substitution on the other, exist not merely within each of the three traditional classifications, but still oftener and more intricately across the lines of the traditional classifications, is still clearer and is still more disastrous for these classifications. Some machines take the place of labor; other machines offer a new demand for labor, either in the making or in the operating or in both. Not rarely a new process requiring little or no machinery, but only or mostly labor, displaces expensive capital appliances. With wireless telegraphy, for example, the last ocean cable may have been laid and the existing cables be fated to abandonment.

Or, again, the discovery of more productive varieties of grain, or the development of new methods of cultivation, like subsoiling or bacterial inoculation, may throw much of the poorer land out of cultivation. Or more plows — a change in capital equipment — may do the same thing.

Better technique of transportation, *i.e.*, better labor, or better transportation equipment, *i.e.*, better machinery, make accessible lands previously inaccessible. Economically, therefore, though not geographically, they create land. And meantime they throw out of cultivation the poorer grades of near-by land. (See Chap. XII.)

The classifications indicted. — It is, then, evident that the threefold classification of productive factors fails (1) in excluding from capital much that is clearly capital, *e.g.*, land, (2) in including within capital only a small share of the remaining things that are equally capital, *e.g.*, credits, franchises, patents, etc., (3) in attempting to base the classification of factors upon purely technological grounds, (4) in constructing upon these grounds a classification that inadequately reports — and mostly misrepresents — the actually existing technological relations, (5) in presenting a classification which, with the continuous and progressive changes in technique, must require for each different entrepreneur a constant redistribution of the subject matter classified, (6) and in imposing the logical necessity of carrying so far the construction of new classes and subclasses as finally to leave the case precisely where it was in the beginning — in substance, an attempt to classify what will not classify, or will classify only upon lines which are constantly changing.

This chapter having emphasized the fact that there are countless technological, or mechanical, directions of cost in the productive process, and countless corresponding bases of costs, and that there are countless other directions of cost, some resting upon bases that are not technological or mechanical in any sense — the next chapter will examine the proportions in which the different factors and different bases of cost are best employed in production. It will be shown that the Law of Diminishing Returns as applied to land is merely one aspect or application of a law applicable over the entire field of production and of gain, and applicable equally to all the different bases of cost — which broader law will be termed the *Law of the Proportion of Factors;* that this law has social as well as competitive

renderings; that in either rendering it has both static and dynamic aspects — the static aspects referring merely to the current working of things under any assumed set of conditions, the dynamic aspects referring to the trend of things, to certain or probable changes in the conditions, and to the effects which must attend these changes; that, in all competitive renderings, the Law of Proportions means merely that for purposes of gain the entrepreneur must rightly apportion his price costs among their different bases, technological or other, or must suffer in his price gains; that, in its social bearings, the law points merely to the effects upon the aggregate social product which must attend any excess or defect in the relative supplies of technological factors.

Examination also of the forces and tendencies indicated under the Law of Increasing Returns will advise its renaming as the *Law of Advantage and Size.*

CHAPTER XXIII

LAWS OF RETURN: PROFITABLE PROPORTIONS: PROFITABLE SIZE

The industrial facts. — That, as men acquire larger knowledge, strength, and technical skill, they become more effective producers of wealth; that with larger and larger supplies of any consumable good, there must go a smaller importance attaching to each successive unit of supply; that, upon any given area of land, successive increments of product are obtainable only on terms of increasing difficulty per unit of product; that, in many lines of production, the greater business has, in point of economies of production, the advantage over the smaller business — are propositions no one of which is markedly economic or technical in import, or of a nature to present overserious difficulty of comprehension, or of a character to offer especial temptations to controversy.

Not precisely so, however, for the same propositions as, after subjection to the necessities of economic analysis, reinterpretation for the purposes of economic investigation, and reformulation for the purposes of economic doctrine, they present themselves transformed and rearranged into the well-known "economic laws of return."

The ultimate principle underlying what is commonly known as the law of diminishing returns, and underlying this law in all its different applications, is, when stated in its most general form, an almost self-evident truth, namely, that *disadvantage attends any excess or defect in the supply of productive factors relatively one to another.* This large general law we shall term the law of the *Proportion of Factors.* It affirms nothing more than the disadvantage from bad

combination in all production and in all business undertakings.

Social and competitive: Static and dynamic. — As is generally true with economic principles, this law has its social and its competitive aspects. In its purely private and competitive form — as will later appear — it means not much more than that, in economic activities, as mostly elsewhere outside of the nursery, the asylum, and the poorhouse, "fools get the worst of it." But in its social aspects the law runs in terms more courteous.

For society in the aggregate, the main significance of the law is found in the field of history or of prophecy — of retrospect or prospect. In this sense it is a law in social dynamics; it elucidates the economic bearing, upon society as a whole, of certain changes in the general situation: What effects must these changes have had? Or, taking place in the future, what will be their effects?

The general principle involved has, however, its static formulation: What is the present meaning of the existing relative supplies of productive agents and instruments?

The social-static formulation. — It is evident that society may be badly circumstanced by virtue either of a scant aggregate equipment of productive instruments, relatively to the number of laborers, or of an equipment relatively scant in particular directions. And it is equally clear that the situation may be a fortunate one — for such members of society as there are — by the fact that the membership is a small one relatively to the supplies of land and other instrumental goods. If the per capita equipment in lands or appliances is generous, the society, taken as an aggregate, is so far fortunate, — the average level of comfort is a higher level.

The transition from the static to the dynamic aspect is easily made, — is indeed almost inevitable. Whatever is dynamic leads merely to a new application of static doctrine. That is to say, in order to appraise the significance of the dynamic, there is always necessary another appeal to the static: only so is it possible to appraise the significance of the change. The dynamic aspects of any problem refer merely to the forces at work to make the situa-

tion a new and different situation. But in each new situation there is nothing new but the situation: the static doctrine is still valid; the problem in its setting of new terms remains in principle and in method of analysis the same problem.

The social-dynamic formulation. — *Society is advantaged by every change making for a more generous aggregate equipment of productive instruments* relatively to the number of laborers or making for an equipment relatively more generous in any particular direction. The social significance of this Law of Proportions is, therefore, — be it repeated, — mainly to be sought in the field of history or of prophecy.

To illustrate: The Black Death in England may be taken to have swept away one half of the population of England, leaving, however, unimpaired the supply of land and of other productive equipment. It thereby became possible for the remaining population to enjoy the advantages of a better per capita equipment of land and appliances. Conditions were favorable to the resultfulness of human effort. Doubtless there were also changes in the terms of the distribution of this product among the different coöperating factors; but with the purely distributive and competitive and individual aspects of the case this social formulation of the Law of Proportions is not concerned.

And so, again, were the present population of the world to be doubled, all other things remaining the same, the per capita product of industry must suffer.

Likewise, also, if a population remaining unchanged in point of numbers were to acquire a doubled per capita labor effectiveness, whether by improved technique or by development in strength, or in intelligence, or in intensity of effort, the social product would not thereby be doubled unless, together with this, there should take place a proportionate change in the supply of land and of other equipment. And all this means merely that if some, but not all, of the productive factors are doubled, the product will not fully double.

It is clear that this social-dynamic aspect of the law in question was the sole phase with which Malthus was logically concerned in his formulation of the social menace of increasing population. For the purposes of Malthus' argument nothing need have been deduced as to the bearing of expanding population upon land rents. Nothing was necessarily inferred as to the trend of wages relatively to the other distributive shares. Neither private ownership in

land nor private ownership in any of the productive equipment was necessarily assumed. The formulation was equally valid for the collectivist or for the competitive society. The investigation bore solely on the ratio of product to population, — on the rewards of industry as over against the pain-costs or the time-costs. The product was regarded in the weight-and-tale aspect, or, at most, as reduced to some sort of utility denominator for average or social purposes. No suggestion of the competitive or of the market-value calculus was pertinent to the problem.

The competitive formulation. — But in a society competitively organized the private and competitive value aspects of the Law of Proportions press insistently for hearing. In its most general and inclusive statement the competitive law runs in substantial parallel with the general social law: *Disadvantage in price return accrues to the individual from any excess or defect in the relative proportions of his factors of production.* This is the competitive and individual aspect of the law of the bad combination of factors.

First, however, the static aspect. — The explanations for this badness of combination may be various. In one way or another the entrepreneur has unskillfully gone about his undertaking, has attempted to get on with too much or too little land, has oversupplied or undersupplied himself with machinery or with seed or with fertilizers, has hired too few or too many laborers or laborers of the wrong sorts or grades, or has not correctly proportioned the different grades to one another.

But, even so, this static formulation has two important aspects, aspects only with great difficulty distinguished, aspects which, in fact, have never, in the history of Political Economy, been consistently distinguished, but which none the less make imperative demand for careful and consistent distinction: (1) The law may refer to purely technological considerations, to the fact, *e.g.*, that in market gardening or in grain production there must be seed to go with the land, or that labor must stand in some sort of proportion to machinery, no matter how high the wage or how cheap the machinery; (2) but, for ordinary competitive purposes,

it is evident that a wise combination of factors must depend mainly upon the relative hires or costs at which these factors are to be had. This follows from the fact that all competitive entrepreneur computations, both of cost and of product, run in terms of price outlay as over against price product. No one combination of factors, therefore, can be asserted to be the best for purposes of the entrepreneur, and to be diverged from only with disadvantage, unless upon the assumption of an established relation of prices among the various factors employed. With each change in relative prices a new combination comes to be the best combination. It is, in fact, only by this dependence of the amount of the employed factor upon the price of that factor that the constant redistributions and substitutions of factors become possible. If wages are high, the pressure is strong toward the introduction of machinery; in countries of low wages, machinery is little called for; if land commands high rent, it pays to increase the proportions of labor or of fertilizers or of implements.

But, as we have already seen in an earlier chapter, these substitutions are commonly possible only within fairly restricted limits, and on terms of increasing difficulty. It is, indeed, because these substitutions are limited in their scope that it is possible for any factor to become relatively scarce and for the necessity to arise for the observance of due proportions among factors. If, for example, indefinitely more labor could be applied to a given area of land, without progressively meager returns, there could never be any such thing as a scarcity of land; and land being plenty relative to the need, rent could never emerge. It is thus evident that the existence of rent, as a price fact, is partly conditioned on certain fundamental requirements in the technique of agriculture.

Differences in entrepreneurs. — This dependence of one factor of production upon another, this impossibility of indefinite substitution, requires, therefore, that, in the competitive price process in which the factors are employed, the entrepreneur combine wisely the different factors. But precisely because the entrepreneurs are different one from

another, both in abilities and in financial resources, each different entrepreneur must have his one best, and different, method and proportion for the combining of the factors. Even if all farmers are equally skillful, this would neither require nor permit that they hire or buy the same quantity or kind of land, or manage their enterprises in precisely the same way.

It is also clear that it is the possibility of the substitution of factors that presents to each entrepreneur his peculiar problem of how best to proportion the different factors in his enterprise, and requires also that each entrepreneur solve his problem in his own peculiar and different way. And it is equally clear that there could be no problem of proportions for any entrepreneur, were these substitutions possible without limit. There is a partial independence of each factor, due to its possibility of substituting itself for the other factors; but there is also a partial dependence by virtue of the limited possibility of this substitution. The technological relations are thus again shown to be fundamental to the price relations.

On the whole, however, it is evident that the more important technological relation between the factors is the relation of interdependence; each factor employs the other rather than takes the place of the others. Thus the supply of any one factor is, in a sense and to a limited degree, the basis of a demand for other factors to go with it. Machinery does not, on the whole, take the place of men, but calls instead for more men. Wagons would be useless without drivers, pastures without cattle, meadow lands without pasture, iron and iron mines without coal and coal mines, cars without locomotives, and so on indefinitely.

But note again that there is nothing in all these relations to justify the threefold classification of productive factors. If human beings are to constitute one class, as distinguished from machinery constituting another, on the basis that each must have the other to go with it, — the complementary relation, — it is to be objected that men sometimes take the place of machines and are in turn often displaced by machines; constantly and extensively agricultural machinery is driving labor to the towns. Nor are the relations be-

tween different laborers quite satisfactory as a basis for including all labor in one economic classification; in the same field of employment and in the same general grade of labor, laborers compete against one another; laborers of different fields or grades are demands for one another; the more masons the more hodcarriers; the more of the unskilled, the more overseers and supervisors — and so on indefinitely. So again, some machinery calls for other, and some displaces other.

But, in other connections, all these interrelations have been sufficiently emphasized in earlier chapters — as has also the truth that both the complementary relations and the relations of substitution are constantly changing, depend at any particular time on the particular situation in point of technique, and have at no time and in no situation the slightest relation to the land-labor-capital classification. In any case, however, it is obvious that the necessity of abandoning this threefold classification of factors can tend in no way to impeach the Law of the Proportion of Factors as here presented, or to limit its scope, but must apply rather to support and to emphasize it and vastly to extend its scope.

Confused formulations. — In the interests both of safety and of accuracy great care must be taken that all competitive formulations of the Law of Proportions run consistently in terms of price. For competitive purposes the following formulations are evidently wide of the point unless amended along the lines suggested in the brackets. "In agriculture . . . by increasing the labor [expense] the produce is not increased [in price] in equal degree";[1] or "The application of increased [expense for] capital [goods] and labor to land will add a less than proportionate amount to the [aggregate price of the] produce raised";[2] or "Additional investments of labor [expense] and capital . . . yield a proportionate increase in [price] product";[3] or "In the extractive industries the continual investment of [capital in] labor and capital [goods] on any given tract of land will . . . yield a diminishing proportionate return [in price]";[4] or "After a certain point has been passed in the cultivation of an acre of land . . . increased applications of [expense for] labor and capital [goods] yield less than proportionate returns in [price] product";[5] or "Whenever double the amount of [payment for] exertion yields more than double the amount of [price] products, we are in the

[1] Mill, *Principles of Political Economy*, Book I, Chap. XII, Sec. 2.
[2] Marshall, *Principles of Economics*, 4th ed., p. 230.
[3] Bullock, *Quarterly Journal of Economics*, Vol. XVI, p. 475.
[4] *Ibid.*, p. 480. [5] Seager, *Introduction to Economics*, p. 114.

presence of the Law of Increasing Returns or Decreasing Costs. When double the [payment for] exertion just doubles the [price] output, we have the Law of Constant Returns or Constant Cost"; [1] or "In the case of agricultural land . . . additional doses of [expense for] capital [goods] and labor will yield a relatively smaller [price] produce." [2]

Land costs, labor costs, material costs, wage costs, and opportunity costs, all require rendering over into the denominator of price or of entrepreneur capital, and must be set over against a total of price product before the so-called Law of Diminishing Return or any other law of return can come to be relevant to the entrepreneur computation. Land as superficies, plus labor, machinery, seed and fertilizers somehow aggregated, cannot be compared with weight-and-tale product, and still less with price product.

Nor can any formulation be strictly to the purpose of the entrepreneur analysis, when the costs are duly aggregated into value and price totals, but are set over against mere quantity of product. Quantity of product appeals to the entrepreneur only as it may directly translate into price of product. And this, indeed, it may often do, but only on condition that the product of the enterprise is a relatively small one and the competitors many. But in any case the competitive law must be made exclusively a price law, either in terms or by interpretation.

Inferences from the competitive-static law. — But what, now, is the significance of the Law of Proportions taken in the competitive and in the purely static sense? Does the law in any sense throw light on the determination of prices? No *social* law of return — whether static or dynamic — is relevant to the price adjustment. Nor, so far as we have yet gone with the competitive-static analysis, have we at all advanced ourselves for any purposes of the price problem. To assert that the less shrewd the entrepreneur in fixing the relative proportions of factors, the smaller will be his price product, does indeed vaguely hint of the profits accruing to him relatively to his competitors, — says in substance that here as elsewhere the unskillful man gets the worst of things, but makes no deliverance as to prices. True it is that, if entrepreneurs should become more capable in any

[1] Seligman, *Principles of Economics*, p. 250. [2] *Ibid.*, p. 306.

industry, prices might thereby be affected, but this is to smuggle dynamic facts into a purely static problem.

Nor has any basis been so far offered for inferences as to distribution, unless perhaps with this single reference to profits. We have only a greater or smaller total of price product relatively to the total of price costs, accordingly as the productive factors have been well or ill combined. But in this there is nothing to indicate whether wages will rise or fall, either absolutely or relatively to rent or interest, — nothing to show that rent will gain or lose in the total or in relation to any other distributive share. We have, in fact, arrived at nothing better than an entirely obvious conclusion as to the profits of entrepreneurs relatively to one another.

More than a land law. — But, so far as the competitive-static law is valid and serviceable, — and for whatever purposes it is valid and serviceable, — it is obviously a law equally applicable to all the coöperating productive factors. It is not in any especial degree a law of agricultural production; nor is it a law valid only by virtue of the presence and the use of land, and in the degree solely of this presence and use.

Where, then, shall warrant be found for the doctrine — purely as a static formulation — that if land is relatively scarce, land rent must be high relatively to other costs? Or that if laborers are scarce, their wages are likely to be high? Or that a restriction of loan fund means high interest rates, other things remaining the same? Or that machine rents are commonly high if the particular kind of machine is difficult — costly — to obtain?

Doubtless all these propositions are valid; but for these particular and specific laws no justification has yet been given. And more than this, — the distributive analysis necessary to justify any one of these formulations is an analysis both difficult and delicate. All this, however, will become clearer in our examination of the Law of Proportions in its fourth and last aspect, the competitive-dynamic.

More than a technological law. — In view, however, of the argument of the preceding chapter, some surprise and some protest may be expected at the prevailingly technological emphasis so far

given to the law of proportions. But, in fact, no criticism was there directed against the recognition, in economic discussion, of these technological relations, but only to the recognition of these relations exclusively. No question was there made or is here made that technological aspects are important in most productive enterprises — in preparing stocks for the market there must obviously be printing presses — but it was there pointed out, and must here be emphasized, that technological factors in production are not the only factors involved, that there are other technological factors than land and machinery, and that the threefold classification does not tenably classify even such technological factors as it includes. There are, in fact, many sorts of each of these three; there are factors, with their attendant costs, which have small technological significance; and there are others which have none. Even in farming, with its obvious land and machines and labor, not only are there different kinds of machinery, different grades and sorts of labor, different qualities of land of differing applications, but there are also risks of hail and drought and disease and fire and financial stress. There are freights and taxes. There are fertilizers and insecticides. There are secret formulæ — at a dollar each — for making hens lay and for curing foot-rot in sheep. There are advertising outlays to the end of marketing a special brand or strain of fancy stock. There are trips to town and dues at the Grange. There are subscriptions to agricultural journals, and contributions to the traveling agent who never delivers the goods. And all of these are costs incidental to the business, and incurred in the process of getting grain and cattle and eggs upon the market.

But none the less, all the while, this law of proportions holds, abating neither jot nor tittle of its meaning and force. The outlays for insurance must be appropriate to the size of the business, the smaller, relatively, as the risks are widely scattered, the larger as the enterprise is not financially equipped or organized to meet sudden strains or to redistribute its resources promptly. As the barns and sheds must be in due relation to the working cattle, the dairy animals, and the farm machinery, so the different laborers must be fitted to the various tasks. Likewise the overhead expenses of insurance, travel, and taxes must be held in due proportion to the product marketed. The advertising must neither be too niggardly nor overexpensive; nor must it be badly selected in method or kind. The outlays in experiments with new processes, new customers, new formulæ, and new lightning-rod agents must conform to the nature and size of the undertaking, and must be made with due regard to the total financial resources and to the measure of

loss which the general condition of the business can carry without menace of severe financial pressure. And the use of credit must be safely within the security which may be offered and the amount and kind of disposable collaterals. The business must not be permitted to tie up an overlarge share of its funds in credit accommodations to customers. Nor must the bank balances be so scant as to forbid of taking prompt advantage of attractive cash bargains, nor yet so large as to permit of waste upon idle funds. And not merely this: but the choice of a business and the nature of the business, the nature of its departments and the size of each, the qualities of the employed men, the grades and kinds of machinery and of work cattle and of breeding stock, the safe volume of credit and of debt, — must all be affected by the breadth of grasp, the fitness and resourcefulness and the peculiar experience of the particular entrepreneur. On the one hand he must have care to restrict his operations to conform to his managerial capacity and to his supervisory abilities; on the other hand he must not allow any part of his supervisory abilities to run to waste. Everything in proportion; "The great bad," as Jane Carlyle remarked, "is in mixing things," — badly.

The competitive-dynamic formulation. — Here, again, the step from the static to the dynamic is so ready of making as to be almost inevitable. Whatever is true for the analysis of the static situation before the dynamic influences have come to apply will *in doctrine and method* hold for the analysis of the situation in its new setting. For a full treatment of the dynamic aspects of our problem we should therefore have to inquire (1) as to the influences resulting in changes in the relative supplies of particular factors, or in the relative demands for products, or in the technological relations between the various productive factors; (2) as to the bearing of these changes (*a*) upon the total of the entrepreneur's product in terms of price relative to his costs in terms of price, (*b*) upon the relative changes in his outlays for the various cost factors, — that is to say, upon the terms of the distribution of his price product. For some of the costs to the entrepreneur are distributive shares to the recipients.

Nothing in the way of explanation can be offered here for the various modifications in human beings affecting either the demand for goods or the supply of goods. Men in the average or in the

aggregate change in numbers, in needs and desires, and in the relative strength of their different needs and desires. As productive agents, they change in health, strength, endurance, industry, moral qualities, and in social and economic institutions — in their development of credit institutions, of transportation methods, and of the technique of production generally. Changes in the human term of the economic problem are important also in regard to the disposition to save for the future and in regard to the direction in which this provision is sought. Saving partly conditions social capitalization.

Nor for the environmental aspects or the equipment aspects of production can more be done here than to suggest the lines of change that are open — the multiplication of tools, machines, and appliances, the subjugation of new fields, the opening up of new continents, all the minor modifications of the environment due to men, and, finally, the great total of modifications, climatic or other, which are beyond the reach of men to cause or to prevent.

Nothing, indeed, is both practicable and worth doing here further than briefly to note the bearing of relative increases in the supplies of productive factors upon the values of the products especially due to them, and upon the relative distributive shares imputed to them out of the jointly produced values.

Service wider than price discussion. — It was surely never a great or an important discovery with regard to prices that, if they change at all, they must either go up or go down. Equally safe, and of equal significance, was the corresponding deliverance with regard to costs: if they do not remain constant, they will rise or they will fall. There is, indeed, some question whether a scientific law can properly be anything other than a grouping of phenomena with relation to one specific causal influence, — some question, that is to say, whether a formulation asserting merely the outcome and resultant of the composition of several different coöperating influences is, in any proper sense of the word, a law at all. But, unless as coming under this objection, there can surely be no harm — and no service — in indicating by the Law of Constant Return the sheer fact that prices will turn out not to change, or in dignifying by the name Diminishing Return a trend toward rise in price, or in understanding by Increasing Return a probable or certain fall of price.

But the competitive-dynamic law of proportions may reasonably be expected to bear more desirable fruit than this. Taking it as granted that changes are to occur in the relative supplies of productive agents and instruments, an inquiry, or a series of inquiries, may certainly be made as to the resultant trend of prices. And there is no doubt also that, as matter of detail and of process in a competitive-entrepreneur economy, this trend of things would perforce express itself as a change in relative costs. But the entrepreneur costs are themselves results of the changing aggregate situation, and only as intermediate terms in a longer causal sequence to be regarded as causes of any sort. The ultimate determinant of the high price of any product is to be found in the scarcity of the productive factors upon which the forthcoming of the product is conditioned.

Bearings on distribution. — No detailed discussion or analysis of the distributive process is practicable here. Enough has perhaps been said to indicate that all such laws of return as report the absolute or relative share of any price product imputed to any item or class of productive factors are rather laws summarizing the distributive outcome than indicating or reporting the play of causal forces and the direction of the causal sequence. They are not so much laws illuminating other problems as deriving illumination from other solutions. At best they merely furnish the cost underpinning for the superficial entrepreneur-cost explanation of market price. But, even from the entrepreneur point of view, the prices of the costs look as much like results of price as like causes of price.

One caution, however, must be here repeated: It has long been the vicious habit of economists to proceed directly from changes in the supply of productive factors to the changing values of these factors, — to assume, that is, that the analysis valid for the price determination of consumable goods may be safely applied to production goods. But again be it said that the causal sequence runs not directly from the supply of instruments to the price of the instruments, but first from the supply of instruments to the supply of products, then to the price of products, and, only as the last step, to the price of instruments. The law of the falling price of a consumable good with an increasing supply of that good holds in its usual formulation only because the demand schedule with any one line of consumption goods may be taken as a fixed fact. New supplies can be marketed only on terms of such prices as shall tap

lower levels of price-paying disposition. If, however, the increase is one of a productive agent, there results a new and larger volume of price product and a rearrangement of the conditions of demand. The new level of remuneration is to be worked out only as the outcome of a new problem of distribution. There is assumed a new volume of price product to be imputed to a new and a rearranged and readjusted set of productive agents. So, then, with population increasing relatively to the other factors, there may be expected a fall in the level of wages, but this only by virtue of two influences: (1) a less than proportional increase in the product to be distributed; (2) less favorable terms of distribution for labor relatively to the other agents concerned in the technological process. (See Chap. XV.)

Dynamic applications. — It is evident, then, that the corollaries of this Law of Proportions, taken in the dynamic and competitive sense, are many and important. The applications are far wider, far more difficult, and far more significant than a mere analysis of the bearing of all the different possible changes in the supplies of productive factors (population changes among all the rest), upon prices in general, upon prices of agricultural products in the aggregate, and upon prices of specific agricultural products. For there are also the various distributive problems. Taking for granted an aggregate social product, greater or smaller, and taken, as already solved, the problem of the prices of these products, there remain to be analyzed the terms and proportions under which these various price products are to be distributed among the coöperating factors, each share being regarded not merely in the aspect of an absolute compensation, but also as a compensation relative to the other compensations.

For example, what must be the effect, both absolutely and relatively, of changes in population upon land rents, machinery rents, wages, profits, and discount rates? What effect from changes in per capita technological efficiency? From changes in the supplies of skilled labor of different sorts? Of unskilled labor? From expanding credit and increasing loan fund? From changes in the supplies of machines and appliances, both in volume and in kind? From changes by the opening up of new lands? From improving transportation between the old lands?

And it may be noted, also, in relation to the changes in the prices of consumption goods, that this Law of Proportions is fundamental to the study of the incidence of commodity taxes upon consumers, — the process of forward shifting; while, as explaining the modifications in rent, profits, wages, and time discounts, as distributive shares out of a jointly produced product, this law is fundamental to an understanding of the process of backward shifting.

To resume, then: This Law of the Proportions of Factors, in no matter which one of its varying formulations and applications, derives its validity from the limitations upon the substitution of factors one for another. But the combinations and factors with which it has to do are legion. It breaks up into sublaws: (1) of social application, both static and dynamic; (2) of competitive application, both static and dynamic. These laws of the competitive sort have a wide range of subordinate formulations and applications, — among others, bearings upon the values of consumable goods of every sort, upon the distributive shares of coöperating productive factors indefinite both in variety and in technological combination, upon discount rates, upon the distribution of tax burdens, and upon the capitalized values of such productive factors as are subject to the capitalizing process.

The law of advantage and size. — For some purposes the use of the terms *Diminishing* and *Increasing Returns* is extremely unfortunate, not merely because each of the terms has come to be used in a perplexing variety of meanings, but, more seriously still, because of the misleading antithesis implied.

For, evidently, if disadvantage goes with the unskillful combination of cost factors, it must also be true that advantage goes with the skillful combination. If in one case loss occurs through adding a factor already in sufficient supply, it must be equally the case that advantage accrues through increasing the supply of a factor not yet adequately present. If a falling rate of compensation goes with the making of certain increases, it is thereby implied that more of something else is needed to arrive at the best proportions between factors. And if the bad management manifested in the bad proportioning of factors is indicated under the Law of Diminishing Returns,

should not the Law of Increasing Returns connote the good results that go with the wise adjustment of factors? But this would be to give two names to what in point of causation is only one law,— the significance of the bad proportion of factors.

And more than this: if it be true that, while disadvantage is resulting to a given business through a bad proportioning of factors, an equal or a greater advantage may at the same time be reaped from the mere fact of the mere size of the business unit, — if, that is to say, the proportions of the factors may have one causal bearing, and an increase or a decrease in the size of the unit may have another bearing, altogether irrespective of the question of proportions, there is evidently another difficulty presented: What shall we call this law — or these laws — of good or ill results attendant upon the mere matter of size? Note, also, that this increase of size may be attained by adding more land to land or more labor to labor or more instruments to the instruments already in hand. The proportions between factors may have little or no significance. If there are also two laws here, one of increasing and the other of diminishing returns, each appropriate accordingly as the experience is fortunate or unfortunate, we must now face the difficulty not merely of having two laws formulating the effects of one cause, but also the difficulty of using the same pair of terms for two entirely distinguishable sets of causes.

Assuming, however, so far as we may, that in current usage some approximately definite meaning has attached to the terms "Diminishing" and "Increasing" returns, it would seem desirable to rename the Law of Diminishing Returns as the Law of the *Proportions of Factors*, and the Law of Increasing Returns, as the Law of *Advantage and Size.*

Size *versus* proportions. — But, even so, we are not yet quit of all our perplexities. For, after all is said, many of the advantages seemingly dependent on the sheer increase in the size of the business unit are in reality the mere expression of the fact that a bad proportion has hitherto existed between the entrepreneur factor and the other factors in the productive complex. May not this, indeed, be the ultimate explanation for all the advantages going with the giant business and for the trend toward progressive consolidation? It is at all events clear that, no matter how many other classes of factors there may turn out to be, — whether three or three thousand, — entrepreneur ability forms one class, at the

least. And this factor, or these factors, of entrepreneur ability may be in defect or in excess relatively to the other factors in the productive combination. The entrepreneur may have in charge all that he can advantageously attend to; or, on the other hand, a part of his supervisory and managerial power may be running to waste. Is, then, in itself, size a distinct and separate cause of advantage? This needs looking into.

It is at any rate to be said, in support of a distinct and separate Law of Advantage and Size, that there are some lines of industry and some conditions in which there early accrues a diminishing advantage with increasing size; *e.g.*, in farming ordinarily and in manufacturing under conditions of the limited market imposed by undeveloped methods of transportation. This situation, commonly especially characteristic of farming, is in itself an illustration of the very law which superficially it might appear to deny. Farming exemplifies the Law of Advantage and Size, only that the advantage goes not with the larger business, but rather with the smaller.

Not merely this, but the Law of the Proportion of Factors not only has, as we have seen, a technological basis, but it implies, in any given set of cost levels, a best technological combination in relation to each particular entrepreneur. It is, after all, a Law of Proportions between different sorts of costs, some, but not all, of which are based upon ultimate technological relations.[1]

On the other hand, the Law of Advantage and Size has seemingly little relation to the technological situation, and still less reference to the technological proportions in the business unit. For, as has already been noted, the advan-

[1] Some of these costs, be it repeated, are truly commonly technological, but it is equally clear that some are commonly not so. Not only is it true that the technological factors to be correlated are legion, but also that there are other costs which are entirely lacking in the technological basis, but which are none the less submitted to the necessity of proportion; *e.g.*, insurance, advertising, and taxes, and, in general, those lines of expense connected with administrative and sales departments, — clerks, bookkeepers, traveling men, and the like.

tages of the giant industry are readily attained through the addition of more labor to labor or more machines to machines or more land to the land already employed. The question mostly refers to the size of the investment, the aggregate operating fund in terms of price, irrespective of its technological applications or of the apportionment of this aggregate fund among the different sorts of cost bases. Size refers here not to the kind or quantity of the instruments and appliances of production, not to capital in the technological sense, but rather to capital in the competitive entrepreneur sense, as the total price of the resources employed in the business, irrespective of its technological or nontechnological application or apportionment, whether into land or labor or machinery or what not.

This is not at all to deny that many undertakings suffer from a lack of business capital relatively to entrepreneur ability, — suffer, that is, from the fact that there is an unsaturated margin of supervisory power which is running to waste. Cases of this sort, falling accurately within the Law of Proportion of Factors, are easily confused with other cases properly falling under the Law of Advantage and Size. But the distinction is theoretically none the less clear. Several competing producers may often advantageously unite, and may advantageously retain all the old managers as special department managers or as together constituting a new managerial board. The aggregate of managerial effectiveness may be appreciably greater through this fusion, and may stand as of itself an illustration of the general Law of Advantage and Size. And therewith may go also other important economies and efficiencies, not only of supervision and organization in the mechanical processes of production, but as well in the buying of raw materials and in the sale and the delivery of the product.

The Law of Advantage and Size is, therefore, a real and valid law entirely distinguishable from the Law of Proportion of Factors *and in no sense the antithesis of it.* Any industry may easily illustrate both laws at one and the same time — may, indeed, illustrate the beneficial working of the one and the injurious working of the other. The under-

taking may, for example, be excellently organized in point of proportions and may yet be either too large or too small; or it may be of the desirable size and yet relatively oversupplied with capital goods or with plant or with unspecialized working fund or with land; or it may be overmanned; or it may be inadequately supervised.

Comparative advantage in competing industries. — It is, however, important to note that, for competitive purposes, the law of changing proportional price productivity with changes in the size of the business unit is not safely to be taken to apply in any one line of industry taken as a group, but only to the competing industries inside the group. For it may readily be true that the organization of any industry into the giant form may so reduce the costs therein that, even with an expanding product by weight and tale, the aggregate price product is a smaller one. And this might hold of manufacturers as a whole as over against agriculture as a whole.

Nor can the law rightly imply that greater price productivity goes per unit of expense with increasing size. This is not necessarily true. It is safe to assert only that to the greater industrial unit goes the *relatively* greater product or profit. For when the elasticity of consumption is not great, and when competition among rival businesses is close, lower prices may obtain to the extent of bringing a lower price productiveness for each industrial unit and a generally lower average of price product and of profit. And yet it may remain true that the larger units suffer least.

Nor is the Law of Advantage and Size concerned with the fact that in industries of heavy investment and of heavy fixed charges the extra cost of successive items of product is less in proportion to the increase of weight-and-tale product, — a formulation which, as of necessity, says nothing as to the aggregate increase in price going with the increase in product, but leaves it possible to be assumed that the entrepreneur will limit his product at the point where the extra expense of production, together with the falling prices upon the original product, balances the extra price represented in the added items. In truth, cases of this sort present a peculiar illustration of the Law of Proportion of Factors; for its best results — demand for products and prices of products standing at a given level — the industry is calling for a changed proportion of productive factors, or it is being found true that the proportion of factors, best ordinarily and in the long run for price results, is not the best temporarily. If, for long-run purposes, it is regarded as undesirable

to make an all-round increase in the size of the unit, the best adjustment for temporary purposes must be reached through a proportionment of factors which would be a maladjustment for long-time purposes. This comes about through the fact that, as a long-time computation, the fixed charges must be counted as costs, and that in this computation the costs must stand as an aggregate of price and as set over against an aggregate product in price. Cost for long-time purposes is rather an average than a marginal cost. But in the short-time reckoning the marginal computation is valid, if only all the elements are properly included. To this sort of marginal cost, fixed charges are for the most part irrelevant. (See Chap. XXV.)

It appears, then, that to find out what there really is in this Law of Advantage and Size it is necessary rigidly to exclude all influences of improving technique (developing human beings) and all influences ranking under increased demands for products, and to confine ourselves to the sheer competitive advantages of combination or concentration (1) for increased weight-and-tale product per unit of expense, (2) for increased price product per unit of expense.

Applies in what industries. — It is obvious that no *a-priori* reason exists why this Law of Increasing Return might not characterize all industries. If it does not or if it does so unequally, the reason must be sought in the peculiar nature of the industry in question. The law may fail to hold with certain industries, because by the nature of the instruments which they employ or of the processes required (*e g.*, as with land), the business unit cannot greatly increase, the giant organization being impracticable; or the market may be so limited as to render giant organization impossible. And, as has already been seen, the law is clearly not one referring by necessity to the interdependence of factors or to the constitution of the business unit in respect to the factors included.

Range of applications. — It remains to point out that this Law of Advantage and Size, like the Law of Proportion of Factors, has also its different aspects of service accordingly as it is taken in its static or in its dynamic aspects. It may be invoked to explain some of the phenomena of rising or of falling prices. Or its service may lie in the analysis of the

tendency of profits toward rise, or fall, or differentiation; or its significance may be found in estimating the forces making for consolidation or for monopoly in business; or, finally, some bearing may conceivably be deduced upon land rents, upon the wage level, and upon time-discount rates. That is to say, this law also is fundamental in its significance for the explanation of the prices upon consumable goods and for arriving at the forces determining the outcome of the distributive process. It follows, also, that this law must be appealed to in the examination of the forward shifting of tax burdens upon consumers, and as well also in the examination of backward shifting. This backward shifting must obviously take place through the modification of the distributive shares apportioned out of a product jointly produced by the various productive factors. A tax limiting the market for any product and appropriating a part of the reduced total of price will not merely reduce the aggregate fund of price to be shared among the various coöperating factors, but commonly also will appreciably modify these shares relatively to one another.

The Law of Diminishing Returns has been considered in earlier chapters in its generally recognized relation to the cultivation of land, to the rent of land, and to the prices of agricultural products. This chapter has raised no question as to the validity of this law, but only as to the ambiguous renderings of it, and to the failure to give it proper extension over the general field, not only of production, but of all business enterprise. It has been shown that even with reference to the employment of land, the law has sometimes been given a social emphasis for purposes of history of prophecy, sometimes a purely technological emphasis for purposes of competitive production; but that always the discussion has limited itself to the porportions in which labor, or machinery, or wage outlays, as particular expense or as aggregate expense, are applied to land — the land being, in turn, sometimes regarded as area, at other times as a farm unit, and at still other times as a price investment; that these ambiguities and confusions have resulted from several misconceptions: (1) the failure to perceive that the principle of disadvantage from a poor combination of factors, and of

advantage from a wise combination, is applicable not only to the relations of land to the other factors in production, but also to the relation of all the other factors to land, and to the relations of all the other factors to one another; (2) the failure to recognize that the law has social statements and applications, with reference both (*a*) to any given situation and (*b*) to the significance of modifications of any given situation past or future; (3) the failure to see that the law has also its competitive statement and applications, in its bearing on market prices, and on the market rents both of land and of other instruments of production, and on the profits of any entrepreneur; (4) the failure to appreciate that the competitive rendering of the law has equally its static and its dynamic aspects; (5) the failure to confine the social renderings of the law to questions of the aggregate or the per capita product of goods in society, as distinguished from questions of prices, rents, and distributive shares; (6) the failure to confine the competitive renderings of the law to questions of price costs as against returns in terms of price, and the bearing of land scarcity strictly to price rents and price wages and price profits; (7) and finally the error to which all the other errors are contributing or subordinate — the notion that land stands to competitive business in some distinct and peculiar relation, conforms to different laws, controls peculiar incomes, and is itself something other than one item of capital among many other capital items.

It has also been shown that the recognition of this broad and general Law of Proportions not nerely compels the abandonment of the distinction between land and capital, but compels also the abandonment of all attempt to subject the factors of production to any principle of classification; that while technological factors in production must be recognized, to the relations between which the law of proportions applies, there are also to be recognized many other non-technological factors to which the law equally applies; that as the costs are not four but legion, and the distributive shares not four, but legion, so the factors of production are legion; that the interrelations among the factors are infinitely complex — some relations of substitution and some complementary relations, but all relations which are in process of constant change, and which both in variety and in mutability defy fixed classification.

The Law of Advantage and Size formulates the relations between the sizes of business units and the derivative gains. Certain economies and certain opportunities are controlled by the size of the industrial or business unit; the question is not, for this purpose, the ratio between the factors, but the size of the undertaking as a whole, the proportions possibly remaining unchanged. When, however, the chief economy of size is in the possibility of achieving a better proportion of factors, the line between the two laws is not so easily drawn. Size being, however, fundamental to the best proportions, the advantage must be recognized as attaching ultimately to the size. In any case, this Law of Advantage and Size has no necessary connection with technological considerations either of process or of product. It points merely to the aggregate volume of capital investment, in no matter what directions, — a price total, — and concerns merely the greater or smaller competitive power attaching to the change in size. This law will, therefore, greatly illuminate our later analysis of cost of production under the giant organization, and likewise the analysis of the recent trend of industry and of business toward both concentration and monopoly.

The following chapter will especially analyze the relations of the aggregate supplies of the different productive factors to the remunerations which these factors respectively command, and therefore to the distribution of incomes in society. Some special, though slight, attention will be given to the effects of increasing population on rents and on wages All the problems to be considered are, then, to be recognized as rather of the dynamic than the static group. But as these changes, being future, are conjectural, and indefinitely great in number, and indefinitely various in degree, the possible permutations in the hypotheses make exhaustive discussion impossible, and allow only of the selection of certain specific problems for illustrative discussion. The chapter will, therefore, accomplish not much more than to prove that not much can be accomplished.

CHAPTER XXIV

DISTRIBUTION AND THE LAW OF PROPORTIONS

Distributive *versus* cost analysis. — Already in the examination of cost of production many distributive problems and processes have come under discussion. Not all, clearly, but some entrepreneur's costs are also distributive shares. But the cost analysis regards these sums not from the point of view of him who receives the pay, but of him who pays — from the point of view of the one to whom the costs are resistances, rather than from the point of view of those to whom they are remunerations. To the entrepreneur the selling price must stand as indemnity for the sums which, as costs, he has dispensed. So far, therefore, as the analysis of entrepreneur costs has disclosed the processes by which the various entrepreneur outlays are determined — outlays, among others, for labor and land and machinery — so far has a distributive analysis been completed. It need not matter, for the purpose in hand, how many classes of productive factors are to be recognized, or into how many different varieties each of these classes is to be subdivided.

Exaggeration of technology. — But that danger signals are necessary here is proved by the course which the traditional distributive analysis has actually taken: (1) Production, and therefore distribution, have commonly been interpreted as processes in which only technological factors are involved. (2) The influences which the presence of other factors may exert upon the distributive share of any given factor — the mutual relations and interactions of the factors — are prone to be interpreted as presenting that limited number of combinations and applications possible with only three or four separate productive factors, whereas, in fact, the combinations and interactions are legion. (3) The distribution which takes place under the entrepreneur process of cost outlay in pro-

duction has been presented as the sole distributive process; not only are all entrepreneur's costs assumed to be limited to wages, profits, rent, and interest, but it is also assumed that the entrepreneur cost categories are the only distributive categories. Hence the productivity theory of distribution: that all incomes accrue by productive contribution and — accurately or approximately — accrue according to productive contribution. (See Chap. X.)

What factors are technological? — That the outlays of production are concerned with innumerable different factors, and that many of the costs are applied in directions lacking all technological character, we have already seen. It must, indeed be admitted that the line between the technological and the nontechnological is difficult to trace. Outlays for transportation — the method by which you get goods to your customer — may be taken to be technological. But advertising expenses — the ordinary way by which you get your customer to come to you — are equally clearly not technological. If, however, the advertising be by steam whistle or by electric searchlight, the case does not look so clear; the process is technological, only it has not to do with the making of the product, but solely with the marketing. It is financial and pecuniary rather than mechanical and industrial. Take, for example, the business of making automobiles: The producing of the cars — the task of the mechanical department — is technological. The inspecting department may also be so regarded, though not quite so confidently. The sales department is clearly not so. To speak here of factors of production would be inappropriate. True, good advertising, in place of good workmanship or of good inspection, may serve to stimulate a demand for goods, but has nothing to do with bringing about the existence of the goods as objective material facts. The advertising method is perhaps more effective for gain than is mechanical efficiency, but it is another kind of method. The more the advertising that goes with a cigar, the less good tobacco you are likely to get for your money. To declare that all the processes involving cost and promising gain are technological, and that, since there is nothing else to invest in, all gainful investment must perforce be distributed among the three technological factors, land, labor, and capital, is either to violate the distinctions upon which the threefold classification is based, or is deliberately to abandon any attempt at preserving the distinctions. In the dark all cats are gray. The very impossibility of making precise destinction between what is technological and what is not, must somewhat discredit the distinction as a basis of classification.

Interdependence and substitution. — It was suggested in the last chapter that the Law of the Proportion of Factors has some important distributive aspects. Precisely because, between the different factors of production, there are ultimate interdependences of the technological sort, together with other interdependences which are in no degree technological, it comes about that there are different degrees of desirability in the different possible combinations of factors. For each different entrepreneur there is his one best combination in view of what the different factors are costing. If lumber is cheap and feed is dear, the skillful farmer will save feed by building better sheds and barns. At the given level of the various costs, too much or too little of any factor gives bad results in price.

But that there can be too much or too little of any one factor proves (1) that there is an actual interdependence, and, (2) that substitutions of one factor for another are in some degree possible, (3) but that these substitutions have their limit. The fact that, with any change in the relative prices of the factors, the best combination is a new combination is merely a further proof. No combination could be better than another in price results, were it not for the ultimate differences of factors in the productive process or in the business process. Those differences which exist irrespective of the prices of the factors are precisely the reasons for the differences that attend the different relative prices, and are the reasons for the new combinations which attend new levels of prices.

Distribution favors the relatively scarce. — A corollary of this — or, perhaps better, a restatement of it — runs to the effect that, for any relatively scarce factor in his process, the entrepreneur can afford to pay, if he must, a relatively large hire or price. Restated, this amounts to saying that the distributive outcome is the more favorable to the factor that is relatively scarce. When spinners are plenty, weavers will be dear. When lumber is cheap, there will be the greater demand for carpenters. High-priced building sites limit the number of dwellings. The key to the situation is the best paid thing in the situation. As highly trained men become

less rare relatively to the men who are to be supervised and directed, salaries will fall relatively to wages. As employing ability becomes better and more plenty, the wage share in industry will be increased — so far, at least, as the situation remains competitive. The multiplication of skilled labor will in general help unskilled labor — unless, indeed, the landlord shall intervene at the aggregate expense of both. All this merely repeats that the relative scarcity of any factor is the explanation of the high significance of it to the entrepreneur, of the high remuneration that he can afford to advance for it, of the high cost that he will have to submit to if he gets it, and of the high distributive share that goes with it.

Von Wieser puts the case effectively as follows:

> A demand for means of production arises only when, on the one hand, we are *obliged* to employ them or else go without what they produce; and when, on the other hand, we can employ them, inasmuch as we have at our disposal the necessary complementary goods. . . . It follows . . . that the effective demand for means of production must vary, not only when there is a variation in personal wants, but also when there is a variation in the quantity of complementary goods.[1]

Each factor affects the other's share. — It is, then, not open to question that the supply and the derivative hire or cost of any factor in production — *e.g.*, land, machinery, transportation, insurance, police protection — must have of necessity a direct and important bearing upon the remuneration of other factors, *e.g.*, upon the wages of labor, the profits of entrepreneurship, the rents of houses, the prices of fuel or of hides. Dense population hurts wages, not only by diminishing the average per capita output of product, but in carrying to the landlords a larger share of this more scanty product. The demand for plows is doubtless derivative from the demand for foods, but not directly. In any event, it is equally to be said that the supply of land furnishes the demand for plows; lumber affords a demand for nails, horses for wagons, wagons for horses, plows for land, men for plows, plows for men, horses for stables, stables and horses

[1] Wieser, *Natural Value*, p. 102.

for carpenters and for stable boys, horses and wagons for harnesses and for drivers, etc.

Population and wages. — But what, in truth, other things remaining unchanged, is the bearing of increasing population upon the wage level?

To make the question accurately intelligible it must be assumed that the different grades and kinds of labor increase proportionally. And even then, will it do to assert that wages must fall? How comes it to be true, if it is true, that the volume of population influences the wage level? Is it, for example, possible to say, with Professor Carver, that "the wages of labor are determined by an equilibrium of two forces, — the productivity of labor, on the one hand, creating the demand for it, and the standard of living, on the other hand, limiting the supply of it"?

Confusion of static with dynamic. — Not at all denying the bearing of these two forces as somehow influencing wages, each in its own way and time, it is yet to be objected that the ways and the times are separate; that the offered explanation of wages is really a mixture of long-time and short-time influences, — on the one side a static category, a situation, — on the other side a dynamic variant making for possible changes, and then a balance somehow struck between them. The analysis neither stays in nor abandons the field of entrepreneur wage costs, but confuses the costs as they are with the supposed causes of the costs, and with possible or probable variations of the costs. But, even so, the argument is open to further serious criticism; for in reality the standard of living is itself a derivative from the productivity of the labor. The standard of living, as fixing the population-supply term, and as set over against productivity as the demand term, will, then, hardly serve as a full explanation of wages. In turn, also, the productivity of the labor is derivative from the supply of labor — so far, at least, as population affects the case at all.

Equating now against then. — But however this may be, it is in any case clear that as a question of existing wages the productivity of to-day cannot, for any purpose of present costs

or present wages, or under any entrepreneur computation, be equated against the labor supply of some years hence. The supply then bears solely on productivity, and solely on productivity then — two productivities, twenty years apart. The wages of all the yesterdays and of to-day may possibly have something to do with the supply of labor twenty years hence; and the supply of labor of that time will doubtless equate against the demand of that time. The supply of to-day has precisely that same relation to the demand of to-day. To-day there is no equating of the demand or supply or product of to-day with the demand or supply or product of any other time. Any alleged effect from wages, through standards of living, on the supply of labor, — whether, on the one hand, the position urged be that high wages and high standards of living stimulate the birth rate and the percentage of maturities, or whether, on the other hand, the effect be asserted to be precisely the reverse — may be equally well admitted or denied with equal irrelevancy to all problems of the current adjustment of wages; productivity is as it is. Investigation of these lines of influence is, then, merely a more or less successful attempt at a historical explanation of the present labor supply, and, so far as the labor supply has to do with the individual wage, is an attempt to explain *some of the causes* of the present conditions controlling or influencing the ruling level of wages. But the ruling level of wages will be the same whether or not the historical explanations offered be well supported. So the wages to rule twenty years hence may to-day be possible of vague conjecture; and in the making up of the prophecy some bearing may be ascribed to the expected population totals of that time; and these totals may, with more or less justification, be attributed to the standards of living prevailing to-day. But all this is prophecy, and has nothing to say for the wages of to-day.

Population: Standard of living: Wages. — Nor — and this is the important fact for the present discussion — even after the twenty years' term has expired, will such population changes as may have taken place have overmuch to say. It is a vastly dangerous doctrine to assert, even on the supply side, the dependence of wages either on the standard of living

or on the supply of labor. For consumption goods, truly, the reasoning rightly runs that an increased supply diminishes price; but for production goods the doctrine, so far as it is applicable at all, applies differently and to different results. Whenever the very increase in supply itself implies and necessitates a change in the volume of demand, the demand-and-supply formula, entirely accurate for consumption goods, becomes, for production goods, entirely misleading unless used in a very different sense.

If the labor supply increases, how can any one know that the wages must fall? Is it certain that either the per capita productivity by weight and tale or the per capita price productivity must suffer? Not unless the other classes and qualities of agents have failed to make a corresponding increase. And suppose that they have not; with an increased labor supply the social dividend is increased; is it to be assumed that only the old total of wages can, under the new aggregate productivity of labor, be distributed among laborers? If labor has doubled and all kinds of it have doubled, but if, at the same time, the other productive factors have failed to increase or to increase with corresponding rapidity, it may be taken as true that not quite twice as great an aggregate of social product will be possible; and out of this somewhat smaller per capita product a larger *relative* share will go to the agents relatively scarce, and a somewhat smaller relative share to the laborers. And this is all there can possibly be of truth in the proposition that "the wages of labor are determined by an equilibrium of forces — the productivity of labor, on the one hand, creating the demand for it, and the standard of living of laborers, on the other hand, limiting the supply of it." (See Chap. XIV.)

To put it another way: Since with the change in the supply of labor the value product to pay with is all the while changing, that is, the productivity demand is changing, the effect upon the wage level must sum up as the solution of two inquiries: (1) in what measure, relatively to the increase of labor, is there a resulting increase in the total product to be distributed? (2) in what measure does labor, in the distributive process, fail of receiving the whole of the increase of product resulting from the labor increase? It is

evident that an appeal to the ordinary demand-and-supply formula does not promise great results for the purposes of this problem.

Classification of dynamic modifications. — Limitations of time and space forbid the attempt to catalogue, even in a general way, all the possible combinations of productive factors, and to analyze the changing distributive relations which must attend these different combinations. Some of these problems have, indeed, been covered in our previous discussions of wages, rents, profits, and time discounts. Not much more can be done than to present a possible classification of those directions of change which, as modifications in the ultimate conditions under which production and distribution take place, must influence the respective outcomes.

Precisely how the dynamic facts shall be classified is, from one point of view, perhaps not an important matter. Professor Clark's fivefold division into changes, (1) in population, (2) in capital, (3) in industrial methods, (4) in business organizations, (5) in human wants, is possibly as serviceable as any other. Making some effort, however, toward arriving at a classification more nearly approaching the ultimate, we shall, perhaps, settle upon something like the following: modifications (1) in humanity, (2) in environment. Under modifications in humanity are to be catalogued the following lines of change:

(*a*) in numbers.

(*b*) in wants { changes in aggregate wants, changes in relative intensity, changes in kind and direction.

(*c*) in capacity { changes in industriousness or strength, changes in technique, changes in organization.

Under modifications in environment:

(*a*) In land . . . { changes in the sources of food supply, changes in the sources of raw materials of industry.

(*b*) non-land changes, capital goods.

(c) changes in loan fund and in property institutions	from the point of view of each entrepreneur an objective, environmental fact; from the social point of view merely relations among men; perhaps properly to fall under "modifications in humanity."

But here again the question presents itself as to what purpose, other than schematic, this classification may be made to serve; but if for nothing further, it will, at any rate, afford a convenient guide for purposes of exposition.

Task hopeless in magnitude and complexity. — Doubtless it is possible to make some broad generalizations with regard to the effects of increasing population upon land values and upon land rents in the aggregate, irrespective of whether all lands must equally share in these effects. Possibly, also, though less securely, something might, in wide generalization, be said of the effects of increasing machinery upon rents or upon wages, all this, likewise, without attempt to distribute labor into different sorts and grades in its technological relations to machinery.

But the difficulty with all this is that all of it has its basis in the technological relation of different instruments and agents to one another, and that these technological relations will not classify in even a loose and general coincidence with the traditional threefold classification of productive factors.

Changes in industrial methods. — Something, however, must be said as to the effects of changing technique. The traditional threefold classification is especially disastrous here. Hygiene may render pill-rolling machinery useless; invention may largely displace both labor and instrumental goods, and may shift the emphasis over upon land generally or upon particular kinds and qualities of land. There is, in truth, no limit to the possible and the probable permutations here; here, indeed, it is always the unexpected that is probable. How complicated these problems are, and how dependent for their solution upon assumptions tacitly made or unconsciously implied, may be seen in an analysis of the relations of improvements in transportation and in crop-raising technique to the rental values of land.

But all this detail grows wearisome, simply because there can never come any end to it; at the best, it is mostly a disciplinary gymnastic. But this much, at least, stands forth clearly: Every problem in the dynamics of value, in its distributive aspect, must seek its solution along two lines of inquiry: (1) How does the new development affect the social dividend? (2) Does the new development tend, as complementary good or process, to make relatively greater the demand for the instrument or agent under examination? or, rather, is the relation one of substitutionary good or process — amounting, that is, to an increase in the supply of the goods under examination?[1]

[1] *Elasticity of Consumption: Land Rent.*

Space and air and food are the prime necessaries of life. But it is only food that has to be paid for in order to have it in the requisite measure. The utility of the first unit of good is infinite, or nearly so. But the utility curve falls sharply; it is easy to have more than enough; our want is limited. And with this sharply falling curve of utility, there go sharply falling price-demand curves, individual and aggregate. This steepness of curve is only another way of asserting that fabulously high prices must attend any great shortage in the aggregate food supply, and that a great fall in price must follow upon a world-wide bountiful harvest. With a short supply of any commodity, the price must go high enough to shut out all purchasers not able and willing to pay generous prices; with a generous supply, the price must go low enough to find purchasers for all of the supply. But with some commodities a small fall in price will uncover a widely extended market; these are the commodities whose consumption is said to be elastic. With these commodities also rising prices rapidly retire the demand.

But with other things, and with food especially, the consuming disposition responds ungenerously to falling prices, while at the same time it is not greatly affected by rising prices. These are the commodities of inelastic consumption — the commodities of steep demand curve.

With commodities, then, of marked inelasticity of consumption, prices fall more rapidly than the supply increases, and rise more rapidly than the supply diminishes. With food products especially, the rise of prices is out of proportion to the decrease in supply and the fall out of proportion to the increase.

The relations of improving agricultural technique and of cheapening transportation to the rents of agricultural lands are to be analyzed only in the light of the inelasticity in the consumption of

agricultural products. The traditional analysis has assumed a practically inelastic consumption and has deduced the conclusion that the effect of any of these improvements must be a reduction in the world total of agricultural rents. Nor, with the assumption accepted, is the conclusion to be avoided. An improvement in technique is equivalent to an increase in the fertility of land or in the supply of it. It is so far a mitigation of the land famine; it might conceivably go so far as to cancel all fertility rents. Costless transportation also would cancel position rents.

But so soon as the elasticity — or the inelasticity — is taken to be one of degree, the doubts multiply. To arrive at definite conclusions the extent of the inelasticity must be known.

Gregory King's Law — formulated a couple of centuries ago — was the first attempt, as it may long remain the last, to mask our unprecise knowledge of the facts in the appearance of scientific accuracy. The pronouncement was to the effect that if the crop of any one year were only 90 per cent of the ordinary crop, the prices would rise by 30 per cent — the aggregate selling price, therefore, by 17 per cent. The short crop outsells the normal crop. So with 80 per cent of crop the prices would rise by 80 per cent, and the aggregate selling price by 44 per cent.

With 70 per cent of crop .... 2.60 of price, and 1.82 total price
With 60 per cent of crop .... 3.80 of price, and 2.28 total price
With 50 per cent of crop .... 5.50 of price, and 2.75 total price

Just how Gregory King found out all this, we may not too curiously inquire. The figures appear, indeed, to be an understatement of the truth if taken to apply to the aggregate food product of the world — probably as seriously an overstatement if formulated for any one country or for any one variety of product. In Gregory King's time, the world was not one market.

Assuming, however, the substantial accuracy of the estimates as matter of the world supply and the world demand, it is a valid inference that rents in the aggregate must fall with every influence working for larger supplies of food products. If one acre can be made to produce what two acres were producing before, much land will be thrown out of cultivation, prices sharply fall, and the price differential between the better land and the poorer — and between the best land and the poorest — be narrowed. Obviously this must be true if only the fall in prices be sharp enough. And, clearly, on the assumption made, the back-to-the-land movement, in any large and general way, is an impossibility.

From the same assumption, the same conclusions must follow for the opening up of new lands through extending and cheapening transportation. Prices will fall faster than the product increases. The rents must fall still more rapidly.

But even so, the analysis is valid only for the short-time tendency and for the case of a sharp divergence between the supplies of any particular year and the established standards of consumption. The same conclusions will not hold for periods long enough for changes to occur in the habits of consumption.

It is probably true that habits of diet can modify only very slightly the total of nutriment that the individual can digest and assimilate. With centuries of adaptation and of selection (selective adaptation), physical efficiency may come to be consistent with a somewhat more meager diet. But it is not easily credible that an increasingly generous diet can be assimilated in a degree to be of great importance to the discussion.

But the long-time elasticity of consumption is mostly of another sort, the modification taking place not in the amount of nutriment consumed, but in the relative amounts of the different varieties consumed, or in the addition of new varieties. Doubtless the per capita consumption of the cheaper food products does somewhat increase from hard times to good; the dinner pail that is relatively full is a reality. But in the main — and especially in the long-time tendency — elasticity manifests itself mostly in the substitution of more expensive products for the less expensive — of wheat for corn or rye, bread for potatoes, meat for cereals, fruit for vegetables, wine for cider, champagne for wine, and generally in the addition of new luxuries, new delicacies, new tastes, and new flavors. Eating and drinking what the men of to-day actually eat and drink, it may take more acres of land to support the human being of to-day than were required a hundred years ago for his predecessor.

The statistics, therefore, that go to show that the per capita consumption of corn has appreciably augmented with the past 15 or 20 years should probably be interpreted to mean not that more corn is actually consumed as such, but rather in some derivative form like meats or sirup or starch or breakfast foods. Similarly, also, with wheat, though probably not in the same degree.

But whatever these statistics precisely mean, they at least suffice to discredit the long-accepted legend of practical inelasticity. The Government *Crop Reporter* of April, 1912, affirms "that in the last 10 or 15 years substantial increases in the prices of agricultural products have occurred in every important country in the world. . . . Coincident with this upward trend of prices, the world's production . . . has also been increasing and at a rate faster than the increase of population. The world's per capita consumption of agricultural products in the last few years has probably been larger than at any previous period. . . .

"Wheat. . . . In 10 years there has been an average increase in the yield per acre of about 8 per cent and an expansion in area of about 15 per cent. . . .

"Corn. . . . In the five-year period 1895–1899 . . . the crop was about 2,759,000,000 bushels; in the next five years, 2,905,000,000; in the last five years, 3,543,000,000; . . . an average increase of nearly 2.8 per cent . . . a year. . . . From 1895–1899 to 1905–1909 the oat production had increased 27 per cent . . . barley 38 per cent . . . rye 7 per cent . . . five cereals . . . 25 per cent.

"Animal products. . . . The world's supply in

1905	1910
cattle 403,958,000	448,796,000
sheep 544,382,000	605,333,000
swine 137,260,000	137,846,000

". . . Such figures indicate that the aggregate supply of animal products . . . has kept pace with population during the past decade."

Noting the fact that food products have increased faster than population, and that the rise in prices of the past 15 years has been especially marked in food products, it is clear that the inelasticity in food consumption has been greatly exaggerated. Relative inelasticity there doubtless is, but still an appreciable degree of elasticity in the absolute.

It is, then, safe to conclude that agricultural rents cannot greatly rise with the advance of technique in agriculture and transportation, but that, on the other hand, the fall, if there is any fall, must be inconsiderable.

With urban rents, however, the tendency is quite other. (See Chap. XIII.)

But in any case the conclusion is inevitable that improving technique in transportation and increasing supplies of equipment have much the same effect on land rents and on the prices of agricultural products as would attend an increase in the supply of land. The point of especial theoretical significance here is that no one can know accurately whether, on the whole, the relation of freight cars to land is a complementary relation or a relation of substitution. If, then, classification be made to depend on technological relations, and only that be called land which competes with land, and only those intruments called capital, as distinguished from land, that are complementary to land and that tend to make land relatively scarce, no one can now know, or is certain ever to know, whether to call a freight car land or capital.

CHAPTER XXV

COSTS IN CORPORATE AND LARGE BUSINESSES

New industrial organization. — An earlier chapter (VI) has discussed the cost computation of an entrepreneur engaged in a typically small and relatively simple business, like that of the farmer or the retail merchant. But how far is this analysis appropriate to the affairs of the giant industrial plant? In what degree does the traditional entrepreneur analysis apply to the corporate organization? How, for example, does the cost analysis present itself to the International Harvester Company? More and more is business assuming the corporate organization. And more and more, also, it might be added, is the corporate organization tending in the direction of monopoly. But monopoly is not directly a part of the present problem. (See Chap. XXXI.)

Corporate *versus* individual cost. — On the face of it, the cost problem as presented to the corporation would appear to call for no very serious modification of the preceding analysis. True, the managers of corporations are themselves salaried men, receiving wages from their employers, the corporations, rather than deriving profits from their individual activity. Thus, corporate managerial activity — in the profit-receiving sense — dwindles to a minimum. But we have already seen that wages and profits are received under the same title of reward for personnel activity, and that the distinction is, for many purposes, not of great importance. And some remnant of the profit which the stockholders receive is doubtless compensation for their supervision of the enterprise. They have ultimate legal authority, and recurrently in legal contemplation — and sometimes in actual fact — select the personnel of the management and determine the policies of the business. With the stock-

holders is the risk of loss, as also is the hope of dividends; all of their ownership interests center, indeed, in the dividend: they are investors looking for returns upon their invested funds. The officers are merely the appointed agents or stewards. Included in dividends, therefore, is some fraction of true profits — the rewards of an attenuated discretion and direction in the selection of the investment to be entered into and in the choice of the employees to have charge of it. The stockholders are, in substance, joint entrepreneurs. In fact, there are in the entrepreneur function a variety of activities. Some of these are more detailed and more clerical in nature than others, but all are personal activities and are remunerated as such. That a part, the less responsible part, are delegated to selected employees, leaves the residuum of remuneration none the less a remuneration for personal activity, a wage impersonally received from the market without the intervention of an employer. The dividends are, then, in part, true interest; in part, higher gains received because of the danger of smaller dividends or of loss of the principal; in part, gains on risk in excess of the cost of carrying the risk; and in part, albeit a small part, a reward for the entrepreneur function of ultimate choice and supervision.

But no matter how strong is the case for regarding the stockholders as entrepreneurs, it still stands as true that the business of the corporation is to make dividends and that these are in the main a return upon invested funds, a return which is to be apportioned ratably among the stockholders according to the size of their holdings. The corporate quest, like other quests, is for the largest possible net return upon the business. Gain solely is in contemplation; but these gains are in no appreciable measure conceived as profits in the technical sense of returns for gainful activity, but rather as interest upon invested capital.

Profits on stock operations. — Surely in many cases the owners of the stocks do reap true profits. But these occur, not in the course of the conduct of the corporate affairs, but in investing or dealing in the corporate stocks. If, for example, the aggregate stock investment of 1,000,000 dollars turns out to reap returns of 10 per cent

upon the investment — and to promise as well for the future — the stocks will register a market price of approximately 2,000,000 dollars instead of par. This means that the property which cost 1,000,000 is worth 2,000,000; it really pays 5 per cent on the new valuation, not 10 per cent on the old. There has, then, already accrued a profit of 1,000,000 dollars, expressed as an 1,000,000 dollars increase in the market value of the property. Certainly a part of this increase is accurately to be regarded as an indemnity for risks undertaken and part as a return upon personal cleverness or wisdom. Room here for profits in the strict sense there surely is. The only question is what part is to be attributed to each function, what part interest, what part profit.

But this profit evidently does not accrue in the regular conduct of corporate affairs, but is rather a gain to one who is operating in the stocks of the corporation — an external matter rather than an internal. The business of the corporation is the carrying on of the corporate business. The affairs of any individual stockholder are another matter. In the corporate business there is, then, small place for profits in the strict and technical sense.

Profits of corporation *versus* profits of managers. — But even admitting that corporate profits may accrue in the most limited and technical sense of the word, they concern the case only as material for dividends, the ultimate purpose of the corporation.

And precisely as a distinction is necessary between the business of a corporation and the possible operations of the individual owners of its stocks, so another distinction must be drawn between the operations of the corporation and the possible, and probable, operations of the management. Profits are easily possible for the managers by ways not strictly interior to the corporation or logically a part of its processes. It is not uncommon for the managers to reap a purely personal reward for a personal activity which is a mere plundering of the corporation whose interests they are appointed to serve. They may, for example, vote themselves prodigal salaries, especially if they have the strategic advantage of owning or controlling considerable amounts of stock. Or they may in one way or another directly appropriate the corporate money without waiting to have it voted. Methods of this sort are, however, too crude for the really finished and artistic operators in corporate mismanagement. Nor do the higher levels of good form and of clever workmanship now permit the adept to own industries along the line of the railroad and to make himself especially favorable freight rates, or to sell to the corporation his own product at especially high prices, or to buy from the corporation his supplies at special concessions, or to deny to his

competitor the privilege of sidetracks or the use of freight cars. Doubtless all these different iniquities are practiced, but they discredit the corporation manager as a bungler and a novice. He is now a vulgar fellow who stoops to mere commonplace and obvious stealing. No matter what may still remain his standing in polite society, the code of reputable business has ceased to tolerate him. His methods are not refined enough to comply with the later standards of high finance. They are no better than pilfering from the till, or plundering one's chief, or betraying a specific trust, or selling out a client, or defrauding a ward. All these things the business code of morals now outlaws.

Many things, however, the corporate manager may still do without offense to the established code. Here, again, the distinction between the corporation and the stockholder is important. Decency denies the manager permission to plunder his corporation, but he has not yet been deprived of the privilege of plundering both present and prospective stockholders by buying stocks from the one and selling them to the other. Nothing, indeed, could be easier or simpler: The manager has only to utilize his inside information for purposes of operations in the stock markets, buying from existing holders when the stocks are seen to be unduly low and selling when the stocks are overhigh. Or better yet: If the company has so prospered as to earn good dividends and as to register a high value for its stocks, the next step is to mismanage it and to sell stocks, or to sell futures in stocks, and then to mismanage — a reaping of gains so easy and so certain as hardly to merit the name of speculation. Or, again, if the business has been mismanaged, an equally generous gain may be had by "going long" in the market and managing the property well. Or the management — *e.g.*, Mr. Harriman and his friends in the Union Pacific — may determine to raise the dividends from 8 to 10 per cent. Pending this, they may buy heavily from the existing stockholders to the end of selling later at from 20 to 40 points of profit. And thereafter, say a year or two later, it will be time enough to discover that 10 per cent was too high a dividend for the business to stand — whereupon another equally large total of plunder may be had by speculating for the fall in stocks, which may be relied upon promptly to follow the announcement of the lower dividend. There is, indeed, no good reason why a very wealthy individual or group of individuals may not, in the multiplicity of great corporate undertakings, have always in process one, or two, or several of these safe and gainful manipulations. And after each campaign the next will be easier; with the proceeds still more may be financed.

But assuming for the moment that the management is seriously trying to earn the maximum possible dividend — an assumption which equally may or may not be valid — it is to be noted that none of these stock exchange operations have rightly to do with the computations by which the corporation arrives at its costs and determines its output either of commodities or of services. The gains are not to be regarded as profits as the result of the activities of the corporation proper, but as the collateral diversions of the managers.

Monopoly and cost. — The necessities of the present analysis compel immediate reference to reasonings belonging in strictness to monoply theory:

It is commonly said that the theory of monopoly price diverges from competitive theory by the very fact that, in monopoly production, cost is not appealed to as the explanation for the volume of supply, — that cost bears upon price only as it bears upon the supply side of the market equation, — that the peculiar advantage of monopoly is that it may fix the supply where it will, and that the monopoly control over price rests solely in the power of determining the supply.

Such is, indeed, the truth of the case. The theory of monopoly is simple, when once the competitive analysis has been made clear. It is, however, possible to reduce the computation by which a monopoly fixes supply to the terms of the cost analysis. Assume for illustration that, as a matter of the providing of a plant and of the other necessary burdens of production, a monopoly can afford to place upon the market anywhere from 50 to 100 units of product at an expense of 50 each; and assume that the demand is such that one unit could be sold at 100, 2 at 99, and so on down. Evidently, the maximum gain for the monopoly is found in selling 25 units at a price of 75, and at a gain of 25 per unit; 25×25 is the largest parallelogram to be plotted inside of the triangle; 26 units at 24 of gain, or 24 units at 26 of gain, would give a total gain of 624; 25 units at 25 of gain gives a total of 625.

With changes in either the curve of supply or the curve of demand, changes must come in the point at which a restriction of product will return the maximum gain. A deal of experimenting may be necessary in practical affairs in order to develop the facts as to demand or as to supply. But the general principle is clear. And the possibility of stimulating competition or of arousing public

agitation or adverse legislation may doubtless advise the monopoly, as a long-time policy, to impose exactions something short of the maximum possibility. And if, as is commonly the case, a monopoly is only partial instead of complete, there arises the question of how effectively to limit the aggregate product and to arrive at a working apportionment of it.

But in any case, the cost analysis may without undue violence be extended to cover the problem. At its broadest, the cost law indicates the point at which product, or added product, cancels as many price-measured facts as it adds to the aggregate selling price; production ceases at the point at which price costs are at balance against price product. The monopoly application of this principle is as follows: On the credit side of the account is computed the increment of product at the new sale price which attends its production; to be charged against this total addition of selling price are (1) the extra outlays of production, and (2) the loss in price suffered by the earlier items of product through the addition of the new items. The point of equation between the two sides of the account is the limit upon production.

In actual fact, however, restrictions of product rarely follow the method of first determining the volume of product and then of leaving it to the market to absorb this product on such terms as may be fixed by the competition of buyers. The more common method is to fix the selling price and then to sell only such product as the market will accept at the price. But it still holds true that the higher price is possible only on terms of the restriction of product. By this method of limiting the product at the amount which will be taken at the price, the adjustments necessary under partial monopoly are more readily made. The producer controlling a very large proportion of the total productive capacity may commonly dictate the price at any given time. The smaller competitors find it better worth their while to adhere to this price than to precipitate a struggle for larger sales through a price-cutting competition.

Characteristics of giant industries. — Irrespective of any monopoly features, the conditions under which the great industrial undertakings are carried on are in sharp contrast to those of farming or of any other typically simple line of production:

(1) The farm may be used for any one of many different products, in case any particular product brings disap-

pointing returns. In fact, that the returns from any particular product are unsatisfactory is likely to be due to the more flattering prospects offered by some other product.

The railroad or the rolling mill, on the contrary, is adapted only to a relatively specialized line of production.

(2) Farming is easily entered into and easily abandoned. There are always men looking for farms to hire or to buy; the farmer's implements and stock are easily salable to other cultivators or upon the general market.

But the giant business with its extensive and specialized plant cannot well withdraw. It has commonly no one to sell to. The plant is good for little else than its original purpose. The railroad cannot cease to be a railroad or the rolling mill a rolling mill. The only thing, or the least disastrous thing, is to go ahead, even though no dividends accrue to the stock and little interest to the bonds. The nature of the service, to say nothing of the heavy fixed charges, makes even a temporary suspension an impossibility or a dire calamity. Insolvency means merely that the bondholders take the property, to run it for the same purposes and under much the same conditions. Such cost computations, therefore, as really parallel the simpler cases in the preceding chapter are forward-looking computations applicable only to a specialized plant. Cost, as the necessary indemnity for the bringing forth of supply, is cost as an inducement to begin rather than as indemnity to continue, and is a long-time and slow-moving force in working itself out into modifications of the supply. Doubtless this forward-looking computation is actually made, but it contemplates a long-time average of market conditions, and has small bearing on the policy of any particular season or year. There is, of course, always some flexibility of policy with regard to wear-out and up-keep, but even here the choice has narrow limits. It is commonly better to keep up the property — in some more or less adequate fashion — than to abandon it entirely. Thus, the lower limit of selling price is close to the operating charges for labor and raw materials, plus the most urgent of up-keep costs.

(3) The individual farmer supplies only an infinitesimal

share of goods which have almost a world market, and for any particular kind of crop faces what is, for him, an indefinitely elastic consumption. Not so with most of the giant businesses. With the railroad, for example, no great modification can be wrought in the supply of services which can find a market. Changes in the rates imposed will only slowly develop a larger traffic. For any short-time computation, the volume of traffic to be moved or of passengers to be served is not greatly subject to change; about so much business can be done and not much more, no matter what may be the rate. The ultimate determinant in the case is the size of the population and its industrial efficiency. Thus, modifications in the demand for services and in the equipment to supply this demand do not readily take place and arrive tardily, if at all.

And even when the particular plant is not tied to a certain area of traffic, the weight of the goods and the expense of distant marketing, or the defensive price making of competitors may greatly restrict the practicable area of operation. Or the product may be one in which the fluctuations in demand are not marked and in which the aggregate of consumption responds slightly or slowly to concessions in price.

(4) Farming does not lend itself readily to the giant organization. The farmer may, it is true, advantageously handle more land than his own labor will call for, but the limit of practicable size is never remote. The right proportion between entrepreneur and land requires that each farmer confine himself to a necessarily restricted area. Thus, not only for farming in the aggregate, but for each individual cultivator, higher prices mean a more intensive cultivation at a constantly rising margin of cost.

But in the industries susceptible of the giant organization, and especially in the industries requiring a relatively heavy investment in specialized equipment, the wider the market and the larger the output of any one competitor, the lower may fall the cost of production per unit of product, and the stronger, therefore, the trend toward larger units of production and of organization. That these economies of pro-

duction touch no limit on the hither side of monopoly is commonly not true, but it is clear that they ordinarily go so far toward monopoly as greatly to reduce the number both of plants and of competitors and as greatly to facilitate the process of combination. Perhaps, also, it is true here that competition comes finally to be of a most disastrous sort, which can be escaped only by combination.

Costs in giant competitive production. — In determining, therefore, at any given time, the costs of product and in fixing the volume of product to be marketed, the giant competitive business confronts a twofold problem: (1) In what degree, if at all, does the existing plant figure in the cost computation, beyond those extra expenses of up-keep which the current product imposes? Insurance and rent and decay are items of expense that do not wait on product. (2) What is the relation between the extra cost and the extra selling price which, once reached, is effective to veto any further extension of production? When and why comes the point of stopping?

Temporary cost does not exclude loss. — Recalling that the end in view is always the widest possible margin of net gain — the maximum fund for the payment of interest on bonds and dividends on stocks — and that the years to come, as well as the current year, must be taken into account, it is again apparent that actual loss may be accepted rather than permit an established clientele to be scattered or an efficient body of employees to be dispersed. Or it may be that the tangible plant may be better and more cheaply protected from depreciation by operating it than by allowing it to lie idle to rust and decay. Temporarily, then, the necessary returns from operation may not be inconsistent with some degree of loss — the minimum of loss possible in the situation, a loss accepted as the condition on which an even greater loss is avoided. In truth, the original investment was entered into in full view of the fact that times of wide margins alternate, in the general run of things, with times of meager margins, or even of loss. And precisely because the long-time cost computation is a forward-looking computation, it comes about that the aggregate of plant

and equipment in any industry is adjusted to the prospective long-time average of the market. Despite frequent assertions to the contrary, it is not true that the productive equipment is always and generally in excess of the needs of the market, in any other sense than that, as new plants are constructed with the latest methods and appliances, other plants are either already out of date or are approaching their fate of displacement. There is, then, always this supply of marginal equipment, falling partly on either side of the line of abandonment, some of it starved of up-keep and progressively deteriorating, some of it held idly in reserve against the temporary emergency of a brisk demand, but all of it obsolescent and destined shortly to the wrecker or the scrap pile. Adequacy, for long-time purposes, then, makes it inevitable that the existing equipment is more than adequate for times of depression and of limited consumption, and yet is correspondingly short of adequacy for the periods of brisk demand.

Idle plants. — In those lines of production in which the costs of delivery are especially high and in which, therefore, the plants have to be widely scattered to serve the trade of separate fields, it is probable that some unemployed plants — plants which are a temporary surplus in their special fields — are almost always to be found. And it is probably true, also, that each competing firm or corporation may find that emergency plants in times of high prices afford gain sufficient to more than balance the losses of nonuse in dull times and to justify the maintenance of a volume of equipment somewhat greater than the average year will employ. With falling rates of interest, also, this balance of gain from emergencey plants becomes doubtless somewhat more marked. When combination occurs, these marginal or submarginal plants are the plants likely to be dismantled or to remain closed at all times other than those of a very high pressure of demand. In large part, indeed, the surplus or reserve plant is maintained by the buying out of new or weak or failing competitors.

Three possible cases. — The business policy of the producing concern must then be considered under each of these three possibilities: (1) a normal or average market, (2) periods of brisk demand, (3) periods of depressed demand.

(1) **Average conditions.** — The period of average or normal demand is the time when most of the plants will be operated at the volume of product to which they are best adapted. It is not really true that a given plant can indefinitely extend its output at a constantly lowering cost per unit of product. The lowest cost is at the ideal capacity. It may well be true that a more extensive plant could attain to still greater economies, if only the average level of demand were such as to justify the larger plant. Possibly, also, the long-time trend toward better technique in the factory, and toward lower transportation rates, may make for wider areas of marketing from one center, for larger industrial units, and for lower costs per unit of product. But it is not true that the maximum economies of production are possible for any plant through the largest possible output of product. Rather is it true that for more product, the plant should have been larger. More machines to a given space, more men to each machine, more machines to the existing power, more raw material in the actual yard room, more raw material to the limited storage capacity — all these are sins against the law of the proportion of factors. They imply and involve increasingly wasteful processes of production. Thus, for example, in 1907, the pressure of traffic was so great upon the railroads of the American west, the congestion so acute, as to increase the unit costs of service and as probably to justify the claim of the roads that their rates must be advanced in order to avoid a substantial loss in net revenue. The " bumper " crop may easily attain a size to spell misfortune to the railroad inadequately equipped for the emergency task. Nor, obviously, — *ex vi termini*, — can any railroad wisely go far in maintaining a permanent equipment for emergency tasks. This is, indeed, hardly better than a truism. That a business is at any particular time suffering either by overequipment or by underequipment, means that the proportion of factors best, in the average and in the long run, for price results, is temporarily not the best. Were the new and higher level of demand likely to be permanent, the plant would reasonably call for enlargement. But, if, for long-time purposes, it be

regarded as undesirable to make an all-around increase in the plant of any railroad or industrial unit, the best equipment for temporary purposes must be reached through a proportioning of factors which would be a maladjustment for long-time purposes.

But our present assumption is that the adaptation is precise between capacity and demand — an assumption which evidently will rarely hold, either for any particular plant or for the aggregate of productive capacity. To increase the product for any plant so adapted will, it is true, return a gain upon more items, but will cut into the average gain per item. Nor is it possible to enlarge the sales from any one plant excepting upon terms of a cutting of prices in order to attract trade away from competitors. This, were it done, would finally defeat its own end; a larger volume of purchasing would be stimulated by the lower prices, and a volume of products would be called for too large for the best conditions of cost. The marginal gain from each item of product would, therefore, suffer in two ways — by higher costs and by lower prices.

(2) **Exceptionally favorable conditions.** — Evidently, however, the chances are indefinitely great that the actual situation will not be that one to which the plant is best adapted. Assuming now that the demand is brisk, that the market call for goods has established a level of prices making it possible for the plant under consideration to reap larger gains by pushing its product beyond the volume to which, as a matter of the economies of production, the plant is best adapted — where shall the limit be fixed? Allowances must be made here for the courtesies of competition, the degree in which trade solidarity is recognized, the prevailing code of fair competition — a code commonly the better accepted, the smaller the number of competitors. Something of the principle of combination will be recognized, a notion, obscurely held and indefinitely applied, of the general good of the order. These incompletely competitive businesses will, indeed, allow themselves to be led into a considerable straining of capacity, but none the less will commonly

draw the line an appreciable way short of that product which each individual interest, exclusively considered, would advise. The prices will no doubt be higher, but will not be allowed to induce a volume of product imposing a very serious rise in the cost levels of production. A wide average margin of gain upon a somewhat increased volume of produce will be preferred to the narrower margins possible with a greatly increased volume of product.

As a question of principle, however, we are not the less interested to understand the manner in which an increasing cost is attached to an increasing product. It is evident that to assign to each machine a larger number of operators or to each operator more assistants and tenders, is a policy which must early set its own limit. Some overtime may doubtless be obtained from the existing corps of laborers. But this commonly involves an extra rate of pay for the overtime and, if long continued, reacts unfavorably upon the efficiency of the laborers per hour. If the increase of market demand is very great, a second shift of men may be engaged. But it is not practicable to run the full plant with a half quota of men; and enough efficient laborers are not commonly available for merely a four- or five-hour daily shift. Again, when all employers in the industry are calling for more labor, men of a high grade of efficiency are not easily found at a wage to permit of their gainful employment. Night labor is likely to be expensive in its ratio of product to outlay.

(3) **Adverse conditions.** — The years of restricted consumption present a problem more difficult of analysis. Meager or vanishing returns upon the investment are, as we have seen, probable. But here, again, it must be kept in mind that the largest possible net gain or, if loss must occur, the smallest possible net loss, is the end in view. The nearer the plant can be run to its normal capacity, the lower may be the unit cost of the goods, and the larger the volume of products over which the fixed charges — *e.g.*, interest and insurance and managerial expense — may be spread. The temptation, then, is to maintain the product at its norm

through the offer of special concessions to the clientele of competitors. But retaliation is forthwith inevitable; and, as the probable outcome, a demoralized market and serious losses. To avoid these complications and to fend against these losses is one of the strongest forces making for combination. In the lack of concerted action in this direction for the elimination of competition, there is nothing for the case but to appeal to the code of fair competition, with its partial recognition of the solidarity of trade interests.

A simple illustration will make clear these dangers in competition: Suppose that Mrs. A and Mrs. X are rival boarding-house keepers, each with, say, 15 boarders, at a weekly rate of $5: to what limit can Mrs. A afford to cut the rate in order to lure from Mrs. X's establishment one of Mrs. X's boarders? No extra burden of rent or heat or light or table furnishings or services need attend this additional boarder. The extra outlay for raw materials is the only necessary debit. Evidently, then, Mrs. A may enjoy a margin of gain from a price from this extra boarder, which, applied to all her boarders, would mean insolvency. If this extra boarder will promise not to divulge his special rate — and will keep faith — he may have his board, say, at $2.50.

Nevertheless, Mrs. A will be unwise in making this attack upon her friend, the enemy, across the street. If only Mrs. X will also keep the peace, A may well be careful not to disturb it. If either opens the price-cutting contest, there is nothing for the other to do but to follow suit. Special concessions will become general, and the common rate for all the boarders will fall to a level at which the boarding-house business is an impossibility. The only thing either safe or practicable is to recognize a standard of "fair competition" and to abide by it.

So pools and combinations. — For precisely similar reasons the railroads find it necessary either openly or secretly to restrict their competitions. When traffic is scant, no appreciable extra expense attends the making of a freight train a car or two longer. If, by concessions in rates, this surplus traffic may be procured at the expense of competitors, whatever small increase in receipts there is is so much extra gain for the rate-cutting road — provided only that this rate can be kept a secret from the other patrons and that the other roads do not meet the attack with similar methods.

Monopoly present in degree. — The limitation upon competitive supply is, in truth, arrived at by processes at vari-

ance with the ultimate logic of competition. The temptations toward surplus product, or toward price cutting upon some portion of the product, are controlled through a more or less consistent recognition of the solidarity of trade interests and of the necessity of sacrificing a direct and immediate individual gain to the interests of the aggregate good of the trade. Whoever provokes a war of railroad rates, or a contest in price cutting, shares with the rest in the resulting disaster. He would better abide by the expressed or tacit "gentleman's agreement." The penalties bind him even if his promise does not.

There are, nevertheless, fields of activity in which the principle of community of interest has thus far received small application. Surplus product — that part of the product not marketable at the level of the average unit cost — may be disposed of in some foreign market without either inevitable or probable demoralization of the domestic market. Especially is this opportunity of surplus marketing abroad open to a domestic monopoly or to different competing producers behind the walls of a protective tariff.

To summarize: Cost in the ordinary sense applies to the industries of expensive equipment only as a forward-looking and long-time average cost against average return. For the short-time or seasonal period, it applies only so far as these expenses are expenses that can be attributed to any specific portion of the product, and applies then only as fixing a more or less elastic limit to the volume of supply. If the cost computation is to be serviceable as explaining the extent and the limitation of the supply of any particular time, under the modern conditions of giant and specialized undertakings, items of debit not commonly taken into the account in the traditional cost analysis will have to be included. The cost law, at its broadest and most inclusive statement, indicates, as we have seen, the point at which product or added product cancels as many price-measured facts as it adds to the total of sales in terms of price. The theory here is, in substance, not unlike the theory of monopoly.

CHAPTER XXVI

COMBINATION AND MONOPOLY

Definition. — Monopoly is the antithesis of competition. As there is the more of the one, there is the less of the other. Either is, therefore, a matter of degree. So monopoly ranges all the way from an approximately complete control of a market situation, down through the partial monopoly to the point of disappearance in the even competitive level. And inasmuch as in the degree that there is competition to that degree there is not monopoly, it is bad usage to attach the term monopoly to cases, say, of the ordinary ownership of land. If there is any competition anywhere, it is precisely in agricultural production; of all people the farmers are most individualistic, least prone to organization, and least likely ever to reach it. Neither with land nor with other property is the receipt of a rent the distinctive characteristic of the presence of monopoly — but only of ownership.

To define monopoly as the absence of competition is simple enough and clear enough, if only competition were already defined or were easy of definition. Either, but not both at once, will suffice for the other. But precisely because competition is the harder to define, it is perhaps the better place to make a beginning.

Competition defined. — In its widest and most inclusive, but not in its technically economic sense, competition is a state of mind, a temper, an attitude. So far, indeed, is it a state of mind that it is an institution. Every institution is, in fact, an established similarity of thought and action as, for example, manhood suffrage or representative government. To speak of competitive economic institutions suggests the fact that in business affairs men act individualistically and selfishly, and without regard to the welfare of others as an end in itself. The thought includes, also, something

more than rivalry or emulation; the end of economic competition is individual gain in terms of price; the purpose is separatist in motive and in working, rather than coöperative and collective.

In essentials, therefore, the higgling of traders is competitive. Buyers and sellers are bargaining each to the end of getting as much as possible for himself out of the other and of giving as little as possible. The temper is one of antagonism, of contest, of direct self-seeking at the other's prejudice, or, at least, without regard to the other's welfare.

But this is to push the meaning of the term further than ordinary economic usage permits or connotes — though not further than it should logically go. Psychology and ethics would pronounce the relations between demand and supply competitive, as surely they are if submitted to the test of temper and purpose. But competition as an economic term is usually narrower than this. It has not to do with the relations between the two sides of the price equation, but only with the relations between different operators on the same side — with the relations of producers of a particular article to other producers, or of sellers with sellers, or of buyers with buyers. But in any case *competition implies that each actor is separately and independently and selfishly seeking his own individual maximum of gain.* He acts by himself and for himself. Any pooling of interests with other interests, or any slightest consideration of other interests, is inconsistent with the concept. The competitive man is, in his psychology, as solitary a hunter as a cat. Spiritually, he is as isolated a thing as a billiard ball, an atom, a monad, a star. All things that he does he is set to do by himself and for himself. His plans may be far reaching, but they do not intend the gain of any other; neither courtesy nor good will — nor, for that matter, ill will — can have any part in the case. In strict logic there is no place for qualities like consideration or gratitude or courtesy or envy or revenge or ill will in the whole dull lexicon of gain. It suffices that men will do what they agree to do where it is wise, know what is going on, recognize their own interests, and pursue them rationally, consistently, unswervingly.

Combination implies, then, the restriction of competition, in the sense merely that some of the men, not the less competitive in spirit, are acting together in order better to carry on the fight against all the rest, whether sellers or buyers. There is in some measure a pooling of issues to the common interest of the members of the pool — a pack hunt, not in any weakened zest for gain, not less ruthlessly, but only jointly, in groups — a small center of peace or a vortex of

contractual calm, around which, but not within which, the immitigable strife goes on. Some small leaven or adulteration of coöperation gets into the case, but it is a coöperation to the end of a more effective working out of the purposes of competition.

Monopoly is merely combination, the restriction of competition — competition carried to higher levels. At the logical limit of combination all competitors in the ordinary technical sense, all individuals upon the same side of each demand and supply equation, would be harmoniously organized — competitively grouped within the common fortifications — the guns all pointing outward against the common foe, the other side of the market.

Monopoly competitive in purpose and origin. — It is, then, evident that in temper and purpose, combination and monopoly are not less competitive than the so-called competition of the technical terminology, but are merely a more effective form of competition. There is a small oasis of peace within the barrier, in order that there may be a bitterer and more destructive war against outsiders. It is still a hunt for gain, but it is under the better technique of the pack organization. As a league, both of offense and of defense, it may indeed go so far as to erase the necessity of the defensive function — with a more than compensating gain in its efficiency of offense.

Nor, in fact, are these coöperations and communities of interest more than superficial. In ultimate purpose and in final result, the original individualistic and separatist motive still prevails. It is true merely that coöperation presents itself to the individual as his best method of achieving his original and unchanged purpose of individual gain. On the scent or in the fight he makes common cause with his pack. But in the division of spoils he is still a solitary eater. The means change, but the end persists. Whatever other and different thing, better or worse, the coöperations of socialism might imply, the principle of brotherhood exists no more inside than outside the actual modern corporation or partnership or trust. Combination, as we shall shortly see, is merely another aspect or stage of competition, or a corollary of it.

Good and ill in competition. — It is true, though perhaps the emphasis upon the truth has been somewhat overdone, that any scheme of social organization which should exclude all phases of economic competition would involve the loss of important advantages. As there is ill in competition, so, also, there is good. And as there is good in the extension of governmental functions, so, also, there is ill. In the ideal

adjustment of things it could hardly be best — and in the actual on-going of things it is not credible — that the future see the application of either of these antagonistic principles to the exclusion of the other. In human history things move rather by the adjustment of cut and try and compromise than according to logical and schematic and thoroughgoing systems of thought or action. The future, then, will probably retain each of the two principles where its working is salutary. The problem will be in finding the lines and points of adjustment best promising to retain the good that is in each principle and to avoid the bad. Governmental regulation is occasionally a wise and necessary compromise between the two opposing policies.

Broadly viewed, economic competition on the part of producers is an attempt to undersell one another, to find a profitable way of offering — or appearing to offer — more for less. On the part of buyers, it is an attempt to get most for least. Speaking generally, and subject, as we have seen, to important limitations, it is a method by which one member of society gets most from society by rendering the largest service. So far, it is, in outworking, a defective but automatic method of proportioning rewards to benefits. And it is fairly clear that in the absence of the ingenuity which competition has stimulated, the economic progress achieved by the race could hardly have been possible.

Laissez faire. — But that the interests of society are greatly subserved by the elastic energy and ingenious initiative which belong to individual interest and which obtain their fullest manifestation in the competitive system, does not compel the admission that social interests are in every case subserved by the fullest play of individual interests. The interest of each is not always parallel to the interest of all. Even if the interest of each were always rightly understood by him, it would not always conform to the social interest. And if the individual not only goes wide of the social interest, but of his own as well, there is not the less, but the greater, divergence between social and individual interests.

It does not strike the individual, for example, that he is greatly interested not to pollute the springs and streams below him. He is interested that a rule should exist against pollutions generally, and that other people should obey the rule, but not that he himself obey it. So, open and closed seasons for fishing and hunting are necessary for the aggregate good; but the better the laws are observed by others, the greater the advantage to you and me from violating them. The very existence of monopolies rests upon the fact that while a large social product is for the aggregate good, a restriction of production in the special line of each producer is often of enormous advantage to him. So, again, it is for the comfort of the lucky possessor of four seats in the passenger coach that he lounge upon them all, while fellow travelers stand. Something like a government is necessary here in the presence of the conductor. Likewise it is well for the government, through a policeman, to stand at the street crossings and adjust the conflicting interests of foot travelers and traffic; otherwise you and I could never get across the street. Almost all crimes against property illustrate the antagonism between the individual and the general good. One of the aims of socialism is to escape this clash of interests; perhaps, however, this is just where it will fail. How shall any one find strenuous effort to be for his own interest? If he produce twice as much, his share will be increased by one ninety-millionth, — no great matter. As a practical question, each will be interested simply that every one else work nimbly, while he himself takes things easy. It is hard, even in the small horizon of a schoolroom, for the individual to see that he must in his own interest guard the privileges and comforts of all.

Wastes in competitive production. — While it is true that in competition there are strong tendencies toward economies in production, it is equally true that in some cases competition brings about great wastes. While it often results in improvement in the quality of the product or in reduction of prices, in other cases it results in the wasteful multiplication of retailers, in the dear cheapnesses of adulteration and "scamping," in the false pretenses of advertising, in bad sanitation and bad hygiene for men and women, and in the moral, mental, and physical disasters of child labor.

Mere fact of laws discredits laissez faire. — If the individual's understanding of his own interest conformed at all times to the social interest, the need of laws would mostly cease. The doctrine of the economic harmonies runs close

to anarchism. On the other hand, no purely socialistic scheme is justifiable, unless upon the assumption that there is no distinguishable and retainable balance of benefits in any of the tendencies of competition.

Competition often self-destructive. — But some of the tendencies of competition seem destructive of its primary characteristics; for, from one point of view, be it repeated, combination and monopoly are mere aspects of competition. It is a commonplace that the extension of the giant industry at the expense of the small is a competitive product; so of the tendency toward corporate organizations, — toward trusts, pools, monopolies, and the other forms of organized industrial combination. But these secondary aspects of competition differ in the degree in which they retain the primary competitive characteristics. In proportion as they fail of this, they become awkward of treatment to the economist and perplexing to the moralist and legislator.

No harm in mere size. — There is nothing of especial seriousness in the mere organization of industry on a large scale, though considerable is to be said of its benefits — and dangers. But sufficient room remains for the competitive feature in the rivalries of numerous producers; while, at the same time, organization seems possible to a sufficient extent to obtain all or nearly all of the possible economies in production. With some others of the different lines of industry (for example, with transportation industries and with industries in which the costs consist largely of transportation outlays, as in the coal, oil, water, gas, and electric-light industries), the maximum economies in production seem possible only on terms of the exclusion of competition.

No harm in mere economies of size. — Now, it is evident that these resulting economies are not the sources of any considerable evil or perplexity; the awkwardness of the case lies in the fact that, competition being excluded, it is practically certain that society will get none of the advantages of these economies, but that, on the contrary, the low price possible to the monopoly will discourage all outside competition, and the monopoly be thereby enabled not only to reap the entire benefit of its possible economies, but to

collect from society something over and above the price which would prevail under the full and wasteful action of competition. And not only is competition avoided by the superior advantages of the large combination, but it is also destroyed by the method of cutthroat competition, — the trial of financial endurance in doing business at a loss, — or is prevented by the menace of it.

Monopoly costs and profits. — The theory of monopoly profits is a development from the theory of value. The normal competitive price is the price remunerative to the long-time marginal sacrifice in production. This price may be considerably lower than that possibly obtainable from some or all consumers, were such higher price imposed. With some commodities, a change in price does not greatly affect the disposition to consume. In these cases a considerable advance in price is possible, with no considerable reduction in sales, but with severe encroachment on that indefinite quantity indicated under the term "consumer's surplus." (See Chap. V, p. 51.) It is the consumer's surplus which the monopolist manipulates to appropriate. The extent of his operations will be limited at the outside by the point at which his increase in profit, by reason of increased price, approaches an equality with his decrease in profit on account of diminished sales. This adjustment is a separate problem for each industry; and the danger of attracting competition may fix a lower limit in price than the theoretical limit above indicated.

The monopoly principle finds frequent illustration. Fruit occasionally becomes so plentiful in the market as to sell for almost nothing. Half as much would sell for more. The price must go so low that all of the supply can find buyers. If the sellers could combine, it would be to their advantage to withdraw a half of the supply, and, if need were, let it rot. Again, one could hardly give away a hundred bananas to ten ordinary people for their own eating, yet could probably sell one half or one fourth as many at a very appreciable price. Not many decades ago an English company, having a monopoly of the spice trade, sank a whole shipload of spices off the coast of England. These cases further illustrate that

antagonism between utility and price already many times remarked.

The trend toward monopoly. — The proposition that where combination is possible competition is impossible, would be approximately correct if changed to read that to the extent that combination is possible competition is impossible. But we are unable to determine the extent to which methods of combination may be applied. There are certain industries which seem rightly termed natural monopolies. Most or all of these depend to a peculiar degree on the use of natural opportunities or natural forces, or are intimately associated with the industries of transportation. To the degree that the sources of supply or the number of producers is limited, combination becomes more feasible and more dangerous. It is forcibly claimed that a large proportion of all such monopolies are made by legislation or are permitted by legislation. To what degree, if at all, this is true will not be here discussed.

Purchasers' combinations. — Some attention must be given to combinations among purchasers. These are commonly more subject to competition and are less durable than producers' combinations; but, in theory, the analogies are close between the two.

We have seen that, in the long average, price cannot fall below the marginal producer's sacrifice; it may remain above, though if perfect competition exists, this marginal sacrifice is to be regarded as indicating the normal price. If necessary, a large number of producers could afford to produce and sell at lower than the market price. It is evident, therefore, that by actual agreement or by tacit understanding among the purchasers in any given market, the price paid can be to a large extent controlled, to the positive loss of the marginal producer, and to a diminution of the gains of all the producers above the margin. The buyers' combination is an attack on producers' surpluses, parallel to the attack, through sellers' combinations, upon consumers' surpluses. It is true that this buyers' combination must result in a restriction of the supply to the extent that the lower price discourages producers at or near the margin of

production; but as to producers above the margin, the opportunity will still remain to the combination buyers of appropriating a considerable share of the producers' margins. To the extent, clearly, that the total supply in the consumers' market is diminished by the combination tactics of middlemen, market prices will tend toward advance, and a corresponding additional gain accrue to the operators; and if, as sometimes happens, these operators are at the same time in practical control of the selling market, the diminished expense of combination buying may be made the source of additional gain in combination selling.

It is asserted that the purchase of cereal products in rural markets illustrates the working of buyers' combinations, and that the meat-packing industries of the United States illustrate the cumulative effects of the double combination.

Monopoly and restricted supply. — It may, indeed, be said that, in the main, competitive theory and monopoly theory do not diverge, that the supply and demand analysis applicable to competition applies without change to monopoly, and that monopoly differs from competition only in the fact that in monopoly the volume of supply is under centralized control, while in competition the limit of supply is found in marginal cost of production.

So presented, there appears to be little to say about monopoly in this aspect of the case. The analysis is simplicity itself, when once the competitive market analysis is thoroughly grasped. The only problem, in conducting a monopoly, appears, indeed, to be the purely administrative problem as to the wise point of limitation upon the supply, with its corollary, the determination of the market price. Saved costs and higher prices on the one side are to be set over against a smaller total of sales on the other side, all to the purpose of arriving at an adjustment promising a maximum of gain. And, as we have seen, all these administrative computations are susceptible of reduction to the traditional cost categories. (See Chap. XXV.)

The pressure toward monopoly: Economies of production. — Our task is rather to subject to theoretical analysis the

forces which are either leading or driving industry into some one or another of the various forms or degrees of monopoly.

Were the only force making for monopoly the added economies of production attaching to the increasing size of the technological unit or to larger business organization, it is probably safe to say that the cases of monopoly would be few. There are, doubtless, advantages of these sorts — in cheaper buying, in more economical selling, in avoidance of cross freights, in smaller outlays for advertising and for commercial travelers, and also in some measure in a more efficient central management or in better proportions between the managerial factors and the other factors.

Most of the advantages of giant production or of large organization are, however, reached and passed, a good way on the hither side of the last possible step of integration. All that is needed is the great size. The economies which monopoly adds to size are of minor importance. The business with ten thousand or twenty thousand employees has access to as many economies as a business several times as great; or, if this be not always in strictness true, it avoids as many wastes in other directions. The advantages, then, that go with size imply, obviously, a small number of competitors, but do not require the elimination of competition.

The chief inducement to monopoly lies in the advantage of monopoly buying and of monopoly selling; and the chief means of bringing about or of maintaining a monopoly — where it is not cordially entered into — is in the use of cutthroat competition. The fact that, at the ruling level of monopoly prices, the margins of gain are wide is not sufficient to attract competition, if it be equally clear that so long as competitors are in the market there will be no margins at all.

But the advantages of monopoly buying and selling are so great as commonly to avoid the necessity of discipline or compulsion. Competitors are ordinarily anxious enough not to remain competitors. The advantages in prospect are however not mainly in the achieving of wide margins of gain, but more commonly in the avoidance of occasional serious loss. The forces which render competition dangerous among

heavily capitalized industries (see Chap. XXV) are the very forces which push most compellingly toward combination. Only on the basis of some more or less thoroughgoing acceptance of the monopoly principle is the menace of insolvency to be avoided. The magnates of the giant industry are in this respect submitted to the necessities of the modern situation and are powerless against it. Cheap transportation has made the giant industry possible by making possible the purchasing of raw materials and the marketing of products over a wide area from one center. But these same lower costs of transportation have taken from each producer his relatively distinct and separate market, have made each the competitor of all the others everywhere, and thus, for businesses of heavy investment in fixed capital, have made unrestricted competition impossible. There is nothing for them but to divide the field by agreement, or to divide by agreement the business of the general field, or to restrict by some other method the competition in this general field. Combination or coalition is as necessary to giant production as are pools or communities of interest or consolidation to transportation companies. The economies of combination on the technical side have unquestionably been greatly exaggerated, but the disastrous price cutting of competition has been even further from adequate recognition. If society is to have the products, the investors must be permitted to follow those methods which alone can provide an adequate return upon investment.

Unwise legislation. — To show, therefore, that the exactions of monopolies are in large part made possible by overprotective tariffs and by unwise patent laws, or to prove that the narrowed field of operations inside the tariff barrier has much simplified the problem of successful organization, is not at all to indicate that the trust problem can be solved by the reduction or abolition of tariffs or by the much needed reform or repeal of the patent laws. Trusts are merely more easily formed under favoring legislation and are more extortionate under the fostering of tariffs. But there is no reason to believe that they would fail to exist under impartial legislation and free trade. Looked at from the point of view of

the investor, the need of combination would simply be the greater. It would probably be as easy now for the Steel Corporation, with its half billion of surplus from ten years of operation, to organize the steel industry of the world as it was originally to organize the American field. And under free trade this need would be the more imperative.

Control. — The necessary inference from the foregoing analysis is, then, (1) that combinations are inevitable, (2) that regulation is equally inevitable. Monopolies cannot be allowed to do whatever they will. Competition, if it could endure, would itself be regulative. But when competition disappears, other regulation must take its place; there is no third possibility but uncontrolled exploitation.

In some cases probably this regulation will have to go as far as the limitation or the fixation of selling prices. But in any case, (1) profits of promotion will have to be limited; (2) the issues of securities supervised; (3) the separation of ownership from control, through various combinations of securities, prevented; (4) full publicity required; (5) interlocking directorates prohibited — though this is likely to avail little; (6) adequate taxation imposed; (7) progressive participation by government in the dividends provided for.

The combinations of trusts. — It is well, however, to see the ultimate problem clearly. The trusts are serious enough, and the problems directly and obviously connected with them are sufficiently difficult; but the great and the menacing problem is less obvious and much more serious. It is in the individual and group controls that lie back of the trusts.[1] It is, in substance, the progressive movement toward a trust of trusts.

[1] "There are not merely great trusts and combinations which are to be controlled and deprived of their power to create monopolies and destroy rivals; there is something bigger still than they are, and more subtle, more evasive, more difficult to deal with. There are vast confederacies (as I may perhaps call them for the sake of convenience) of banks, railways, express companies, insurance companies, manufacturing corporations, mining corporations power and development companies and all the rest of the circle, bound together

Monopoly features in all business. — But for theoretical purposes it is more to the purpose to note the fact that there is in almost all prosperous businesses a very considerable element of monopoly. For example, the average market price of bank stocks in any great city is probably 25 points above the liquidating value. This differential is in the earning power of the going business, its established connections, its clientele and its reputation. That these things are capital is sufficiently proved by the selling price. The best asset of the Ivory Soap Company, as Professor Veblen has wisely remarked, is the motto, "It Floats." So, the value of a newspaper property is commonly mostly in what is known as its "good will and subscription list." This sort of thing is likely to have been costly of attainment; but, costly or not, it is. It may, without expense, have attached little by little to pioneership in the field — to the mere fact that the business is now a long-established business. But, in any case, it is a differential advantage against which new competitors must wage a long and costly contest in achieving an equal footing. Nothing is harder or more expensive to establish than a successful newspaper in a great city. In the main, it is not worth trying. The gains of the older business are thus mostly safe from competition. Thus,

by the fact that the ownership of their stock and the members of their boards of directors are controlled and determined by comparatively small and closely interrelated groups of persons who, by their informal confederacy, may control, if they please and when they will, both credit and enterprise. There is nothing illegal about these confederacies, so far as I can perceive. They have come about very naturally, generally without plan or deliberation, rather because there was so much money to be invested and it was in the hands, at great financial centers, of men acquainted with one another and intimately associated in business, than because anyone had conceived and was carrying out a plan of general control; but they are none the less potent a force in our economic and financial system on that account. They are part of our problem. Their very existence gives rise to the suspicion of a 'money trust,' a concentration of the control of credit which may at any time become infinitely dangerous to free enterprise. If such a concentration and control does not actually exist, it is evident that it can easily be set up and used at will." — Woodrow Wilson, *Speech of Acceptance*, Aug. 7, 1912.

in the very definition of the term, here is monopoly. And this monopoly is something that, in differing degrees, attends almost all established businesses — some of it an increment richly earned, some of it the mere good fortune of priority, but all of it capital. Many great banks manifest, as we have seen, an earning power out of all proportion to their assets, an earning power which competition appears safe never to menace.

CHAPTER XXVII

THE SOCIAL DIVIDEND AND THE INDIVIDUAL INCOME

Ultimate income is psychic. — All income, whether social or individual, must finally resolve itself into the use of the good things in life that are only to be attained at some sort of cost. Money incomes, of course, there are; and as intermediates toward ultimate incomes they are of supreme importance. But their real significance rests solely on what can be had from them and for them. Ultimate income is not the cash received, nor even the things which the cash will buy, but the benefits which these things render. In the ultimate sense, then, money income resolves itself into what Professor Fetter has termed *psychic income* — that is to say, into the unfree utilities which the money indirectly and the goods directly afford or control.

The aggregate income. — Before inquiring, however, what individuals come to enjoy the good things which bear a price or which could command a price, and why and how these individuals come to this enjoyment, we must inquire what good things there are to enjoy and whence these good things come. What is production? and who and what are productive? But in thus formulating, for the present purpose, our question, we are not inquiring as to what things are individually gainful, how individuals get money incomes for their own purposes, but only what is, in the ultimate sense, the total product in society to be enjoyed. We are set to examine, *from the social point of view*, the aggregate dividend of society, the *distribuendum*.

But note that, from the social point of view, we have no concern with those things which are merely useful as distinguished from valuable. Things so plenty that any one can have them for nothing present no economic problems.

They are not economized, because they need not be. In the economic sense of the term they are not distributed through the economic process — which, be it recalled, is a price process.

What things are to be had with money income. — The distributive problem relates, then, to the process which apportions among the different gain-seekers their various quotas of the good things in life — of those good things that go at a price, that get into the market, that are bought and sold, that may be brought, and are actually brought, under the price denominator — the things that one pays a price for to get or refuses a price for to keep. Not all good things surely are so bought or held; and there are some that cannot be. One does not absolutely have to have a dollar in order to believe in the goodness of God and to be comforted thereby, though it may require many dollars to be eloquently and authoritatively informed about God. One may have health with poverty — the more the poorer — though it is obviously easier to have or keep the health if one is rich. And one may conceivably enjoy both the health and the poverty. Wordsworth informs us that love may be found "in huts where poor men lie"; nor commonly can any one bar another out with a price from "the silence which is in the starry sky, the sleep that is among the lonely hills" — unless, indeed, one works and must live where one cannot see the sky, and has neither the time nor the car fare to get away to the hills. To go is evidently easier with the money; and the hills in the neighborhood may have been allowed to become the parks or the hunting preserves of the people who have the money. But even if it be admitted that love and pity and respect and place are not rarely bought and sold upon the market at a price, it is not less clear that not all of these are there all of the time. There are offices that seek the man as such; and there is respect for honest poverty; and there is praise for the scientific discovery that pays no dividends; and there is fame for the singer whose songs command no royalties.

Thus, the distribuendum does not include all of the values in life, but only those which, being adapted to the price

denominator, are submitted to it and received under it. Whatever the cynics may say, there are some good things that money cannot buy, as there are other good things that, when bought, are no longer good. But on the whole it still stands as true, despite the optimists and the sentimentalists, that the good things in life are mainly for those that can pay for them. No one of us really believes that it is just as well to have $500 a year as $5000; nor is it true, however much the well-to-do may comfort themselves with volunteering this sort of solace to the poor. It is mere smug talk. All that can safely be said is that incomes do not multiply in service as they multiply in size. And on the side of prestige and power and envy, even this is probably not true.

Psychic income dependent on money income. — To explain, then, the distribution of the objective things and facts which render services to human beings, we must explain the distribution of money incomes in society and of all those things that, were they exchanged, would command a money price. The eggs and butter and garden products consumed upon the farm are, it is true, not marketed in the ordinary sense, but could be marketed, and thus possess exchange power and have a price standing. In strict analysis they are really a part of the total market supply, but remain with the farmer because his reservation price is greater than the market price. Though consumed at home, they are incomes. As such, they explain in part what, as tenant, the farmer pays in rent, or what, as owner, he might collect as rent.

The primary fact is goods for distribution. — It was made clear in an earlier chapter that much which, from the individual point of view, is gainful, competitively productive, is from the social point of view mere appropriation by privilege or by levy of tribute; and that, in the gain-seeking competitive process, rents and time discounts and wages are as readily paid for the means and aids to parasitism and predation as for the instruments and agents contributing to the aggregate social product of those things which satisfy

desires. But the purpose of our present investigation is to determine what human activities and what human possessions contribute to the total satisfaction of desire: what are the sources of the social dividend, the aggregate of valuable utilities to be distributed?

What are valuable products? — No question can now remain that wheat, cloth, pepper, books, whisky, Peruna, corsets, ribbons, automobiles, obscene books, cigars — and so on indefinitely — are valuable products and that the means and aids to their existence are productive. But it is still to be emphasized that no mere means or aid — land or machine or raw material — is itself a product in the ultimate sense with which the present discussion has to do. Lands and machines are merely intermediate or instrumental productive facts,employed as means to the end of providing or controlling ultimate psychic incomes. Only things of ultimate service belong in the social dividend.

Not quite so obvious, perhaps, but equally as certain, is it that all actors, teachers, preachers, physicians, singers, servants, gymnasts, ball players, clowns, ballet girls, fortune-tellers, heelers, quacks, and prostitutes — who serve for hire — are productive. That the services are useful is proved by the fact that they are wanted — consists, indeed, merely in this fact. That they are valuable is manifest in their being paid for. Therefore, they afford ultimate economic income.

Not all consumption is destruction. — But consumable goods are not in all cases identical with destructible goods, nor is consumption quite the same thing as destruction. The uses of wealth include more than the eating and drinking and wearing-out of things. Those things which are usually called services, as distinguished from wealth, are obviously without appreciable duration and, in this sense, are consumed as soon as they are produced. And many commodities, for example omelettes, are almost as temporary. And most wealth, it must be admitted, finds sometime a limit to its period of service. But some goods wear out so slowly that decades may pass without any serious sign of rust or moth or decay or disintegration. Yet even a house

of brick or stone goes little by little to wrack and wreck if deprived of current investment in repairs and up-keep. And if, with lapse of time, its walls do not disintegrate by rain and sun and frost, it will probably suffer from mold and rust and discoloration. And though it might objectively remain intact and unharmed, it must probably some day be abandoned as ancient or antiquated or ugly. A change in desire suffices to make old a thing still physically intact and valid; witness the frumpy horror that was last year a coveted bonnet. By one method or another Time has its way with most things. But while they last they are giving out their incomes of shelter or convenience or beauty. That it takes a long time to consume some goods amounts to saying that they render their services over a long period.

Serviceability may increase. — Moreover, it is possible in economics to go over far in the direction of these melancholy musings. *Nothing endures*, it is true, — but true only in the sense that all things change. They may, however, change for the better as well as for the worse. An interesting ruin may easily be a more valuable property than the original castle. It really takes a deal of time to make some things, wine for example, sufficiently old. Grandmothers' laces and grandfathers' clocks, and violins, and paintings mellow in color or tone or texture, or acquire that peculiar romance and charm that attach to the antique. If "fair virtues waste with time, foul deeds grow fair thereby." So far, indeed, as we know, some things, diamonds for example, may never wear out. In any case, however, as the things wear on — and perhaps in time wear out — the services which they render continue to accrue and to make a part in the grand total of goods enjoyed. Pictures, statues, bric-a-brac, furniture, diamonds, and automobiles are the bearers of a great annual aggregate of valuable income. Likewise lands afford not only incomes of grain and lumber and iron, but also incomes of standing and living room, of convenience, of social prestige, of political power, of invigorating air, of sun, of shade, of beautiful prospect, of seclusion, of conspicuousness. That there are real incomes of these sorts is sufficiently proved by the rents which various sorts of land

command. If these ultimate incomes in the social sense were not there, the payments would not be there.

Other items in the aggregate. — The aggregate of income in any society for any given length of time is not, then, measured by the output of immediately consumable goods from the shops and factories, together with all the grain, vegetables, fruits, timber, and minerals derived from the land. The instrumental equipment of society, with all the labor applied to this equipment, does not suffice to explain all of the actual product. Nor is the account complete when all the valuable services of human beings are included — from singers, preachers, teachers, valets, policemen, waiters, nurses, physicians, soldiers, lawyers, judges, and all the rest; the valuable services of durable consumption goods have still to be included.

Unmarketed price facts. — Nor yet is the total complete: as the vegetables and poultry and eggs consumed at home are products, so the housewifely activities of the womenfolk, their dusting and cooking and bed-making, their errand-goings and slipper-bringings and nurse-like ministrations, are not to be counted unproductive by the mere fact that they are not, in any usual sense, paid for.

Privilege and power. — And finally, there are incomes of privilege, place, power, and repute, attendant in some degree upon all wealth, but especially attaching to wealth in exceptionally great individual or group holdings. Just as a landed estate in England carries with it important social and political privileges and opportunities, so in other countries the road to general leadership and influence, as well as the road to senatorships and cabinet positions and foreign embassies, may be sought through the ownership of a bank or of a copper mine. To be a railroad magnate is to enjoy the peculiarly prized income called power. There is, indeed, no possibility of understanding the motives which, in a competitive society, prompt men to the accumulation or great wealth — and perhaps to its earning — till the notion of income is expanded to cover all of the ultimate psychic advantages which wealth controls. The miser's income from his coins may be more than the washing of his hands in

them, or than the enduring consciousness that he could spend if he would. He may also be deriving great joy from imagining how people will admire him when he comes to spend, or how they would admire him if, contrary to his purpose, he should ever come to spend. Some present income, also, there is from dollars to-day in the mere fact that they will command other incomes to-morrow. This may be bad for some of the theories of abstinence, but it must be accepted.

It is not to be denied that some of these incomes are possible only on terms of a net loss to other incomes. Privilege and power and pecuniary glitter may impose upon others a burden greater than is the gain to those who achieve. Socially viewed, the costs may outrank the products. But there are still the products. It may likewise be true in competitive enterprise that the net results of the individual undertaking may not indemnify the outlays; but it would be still worse if there were no results at all. Probably, also, much of the current product in society fails to justify the pain and stress of its production: but it is none the less product. The wastes of competitive production are everywhere great, but this is not to deny that there are products from competitive production.

Various distributive processes. — To make clear in what the aggregate product of society really consists has been a necessary preliminary to the examination of the process by which this product is distributed among the different individual claimants and participants. This process the cost analysis, looked at in its distributive aspect, greatly illuminates but does not entirely explain. Much of the product of society — possibly one half or two thirds of it — reaches its final recipients by gift. Consider for a moment the decorative women, the children, the invalids, the paupers, the insane, the prisoners. Nor are gifts of this sort all of the gifts that there are. Remember that, in the main, our present problem concerns itself with the distribution of purchasing power in society. Taxation, for example, is one method of distribution, or of redistribution. In large part,

doubtless, taxes are collected for services which the contributor receives, and are disbursed to the payees for adequate services rendered. In some part, nevertheless, this comforting general truth does not hold: there are sinecures — as, for example, with most of the large postmasterships. There are fat contracts, pensions, royal bounties by princely spendthrifts to clever courtiers and to thrifty politicians. And there are education at the public expense, and hospitals and asylums and prisons.

Some part, truly, of his tax outlays the entrepreneur may compute as costs in his enterprise, but this is possible only so far as the tax burdens are imposed by the enterprise. Consumption taxes and income taxes and all general property taxes that are truly general, do not fall within the cost category.

Property and distribution. — But more important still is the fact that in explaining the distribution, both of ultimate income and of purchasing power, we have to take account of property institutions and of the actual distribution of property. Much of the wealth in society — wealth that is not employed in any intermediate or instrumental process, but instead is affording directly consumable income — is pure natural bounty. Many of the incomes from land are of this sort — practically all of the incomes from residence sites, rents of space, convenience, air, sun, prospect, prestige, neighborly relations, and pecuniary glory.

Natural bounty. — There attach, also, to these property rights in natural bounty other great incomes which manifest themselves, as entrepreneur costs, in the process of placing goods upon the market. There are, for example, agricultural rents both of position and of fertility, and there are position rents in urban merchandising and manufacturing. Out of the $6\frac{1}{4}$ billions of real estate values as appraised in the city of New York in 1911, 63 per cent were ground values. These were ordinary real estate values, exclusive of special franchises and of the real estate of corporations. The ground values of the great cities average about $1000 per capita of population, or say $3000 per breadwinner. The owner

of the land controls its income either in the form of direct benefits to himself or in the form of a money rent with which to command other benefits. Add to these $4\frac{1}{2}$ billions of ground values in the city of New York the real estate of corporations — 166 millions, more than two thirds of which is ground value — and the 481 millions of special franchise values, and there is disclosed a great total of 5 billions of property bases of distribution which rest solely upon natural bounty or community activity. This 5 billions of unearned wealth is for the city of New York alone, and attaches solely to the land or to the local functions of that city. What this means may be in part inferred from the fact that the statisticians report the total wealth of the country at 120 billions of dollars. (See Chap. XXVIII.)

Franchises. — It is evident that there are important distributive influences to be ascribed to what are commonly known as intangible assets — property rights like franchises, patents, monopolies, and good will. The precise bearing of these factors upon the distributive process is difficult of analysis; but they may be divided into three classes:

(*a*) With good will commonly, and with patents occasionally, the individual or corporate revenues may be collected from something which either is not an added charge to the public or has behind it an adequate additional service to support the added charge. If any moral or political question is involved, it must in such cases refer to the extent or duration of the property right and to the ratio between deserving and reward. But with natural bounties appropriated to private ownership, the question is not the reasonableness of the income received, but solely whether this income should accrue to private benefit under individual ownership. Those who contest most vigorously for the right of private ownership in general — *e.g.*, the single-taxers — are precisely those who least justify the private ownership of natural bounty.

(*b*) The second class of cases is where the patent or franchise or monopoly collects its exactions in charges which appear as costs in the entrepreneur process, and which are,

therefore, in turn by the entrepreneur collected mostly from purchasers, in the guise of the higher prices of the goods produced. These exactions thus appear as distributive shares apportioned to these monopoly factors in production, which factors forthwith take on capital values expressive of the present and prospective command of income. Many trusts are engaged in supplying products entering as raw materials into other processes. By virtue of the restricted supply of these materials, the entrepreneurs, conforming to the Law of the Proportion of Factors, force higher the prices of these materials, and thereby somewhat lower the prices of the remaining coöperating factors. Thus the consuming public shares with the producers of these other factors the monopoly burdens imposed upon industry.

(*c*) In the third class of cases the monopoly producer or the franchise owner collects his direct gains from the consuming public — which gains are later to manifest themselves as purchasing power for the control of ultimate income. It is obvious that in the main these gains are achieved through the restriction of production. The operators take part of the product that is left, as their reward for making it as small as it is.

(*d*) Franchises, like other monopolies, are commonly exploited upon the principle of charging what the traffic will bear. Some restriction of service is probable in most of these cases — a larger parallelogram of gain, at a smaller total of service, but at a wider margin of gain per unit of service. In the main, however, these franchise gains are more nearly like land rents — where the gains must accrue to some one, the sole question being to whom, whether to the general public or to private owners. In actual fact, as will later more fully appear, private properties of this sort contribute meagerly to the public revenues, being rarely taxed even to the extent intended under the *ad-valorem* principle. The public burdens, that is to say, are in the main imposed upon the less questionable classes of property.

Great wealth as controlling more wealth. — But there is more to be said with reference to the relations of large private

fortunes to the distributive process. The principle of Advantage with Size applies with especial force in this connection. It was pointed out in an earlier chapter (X) that there is no way by which the joint output of a particular complex can be accurately imputed to the corresponding factors. Each factor gains by the presence of every other. The farmers with the large farms and with generous equipment of appliances and with adequate working funds are proved by statistical investigations to enjoy in the average the highest net incomes, after deductions are made at the current rate of interest for the services of the invested capital.[1]

[1] (From Bull. 295 of Agr. Experiment Station of Cornell Univ.: An Agricultural Survey, pp. 400–442, *passim*): "The average labor incomes varied to a considerable extent with the different townships, . . .

". . . The owners and tenants in the best townships made nearly twice as much as those in the poorest townships.

". . . Over one third of the farmers who operate their own farms have less than $4000 invested in the farm business. Less than one third have as high as $6000. Of even these small amounts considerable is borrowed. When we consider the equipment and stock necessary to run a farm, we cannot fail to realize how much these farmers are in need of capital for conducting the farm business. To buy land, house, barns, stock, and machinery with less than $4000 is certainly a problem.

"The necessity for a reasonable amount of capital is shown by Table 7. The average owner with less than $4000 capital has not made as much money (wage of labor) as a hired man receives.

TABLE 7. RELATION OF CAPITAL TO PROFITS. 615 FARMS OPERATED BY OWNERS

Capital	Number of Farms	Average Labor Income
$2000 or less	36	$ 192
2001–4000	200	240
4001–6000	183	399
6001–8000	94	530
8001–10000	45	639
10001–15000	44	870
Over 15000	13	1164

Nor is this to be explained by the higher average managerial ability possessed by the men who command the largest wealth. The explanation is rather in the fact that it does

"It has been suggested that the more able men have the larger capitals and that the results are due to the man rather than to the amount of capital. But most of the men who made successes in farming began with small capitals; there must be some such men beginning now. As a matter of fact there are many able men, both old and young, who are farming with very little money. If the question is one of the man, then these should be doing well. . . .

"Of 36 farmers with capitals of less than $2001, not one made a labor income of $600. Of 236 who had less than $4001 capital, not one made a labor income of $1000, and only one made as much as $800. The possibilities of large profits with so small a capital do not seem very bright.

". . . Of 57 farmers with over $10,000 capital, 20 made labor incomes above $1000. Six men who operated their own farms made labor incomes of over $2000. Their capitals varied from $9185 to $21,786.

". . . The average tenant with a capital of less than $1001 failed to make wages. Those with $1001 to $2000 made about the same as hired men. The average of those over $2000 was good. . . .

". . . One reason for the low average labor income in the township of Danby seems to be the shortage of capital. The few farmers in this township who have sufficient capital seem to be doing well. These men have much larger farms than the same capital would provide in other townships. . . .

"The tenants on the larger farms also make considerably more than those on small farms. . . .

"There can be no question but that the larger farms are paying better. But some persons may say that the difference is due not to the size of the farm, but to the farmer, and that the better farmers live on the larger farms. If small farms are the best size, it would seem as if the more intelligent farmers would choose them. If the more intelligent men all choose large farms, there must be some reason for it. Certainly there must be some good farmers living on small farms. If the small farm offers the best opportunities, these farmers should be doing exceedingly well. . . .

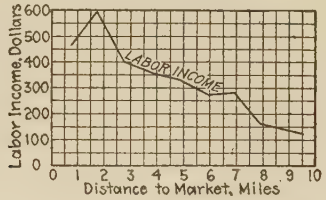
"Of 138 farmers on farms of less than 61 acres, only 10 made a labor income as high as $600. Of 234 farmers with over 100 acres, 79 made over $600.

"Of 138 farmers on farms of less than 61 acres, only one man made a labor income of $1000. Of 34 farmers on farms of over 200 acres, 11 made over $1000 labor income. . . .

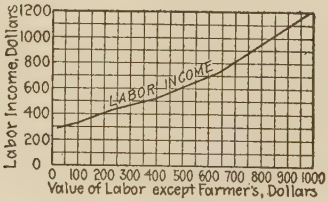
"In each of the groups the farmer's labor income is almost the same as the value of his machinery. . . .

not pay to work a small farm with its correspondingly small equipment. A larger net return to personal earning power

". . . The average owner who is within three miles of the market makes about four times as large a labor income as that made by those who are over seven miles from market.



". . . The average farmer makes a good profit from the labor that he directs. . . .



". . . On the average the profits are 80 per cent of the value of all labor; that is, the farmer's labor income is 80 per cent of the value of the total labor (Table 58)."

TABLE 58. RELATION OF LABOR TO PROFITS FARMS OPERATED BY OWNERS

Value of Total Labor	Labor Income [of Employer]	Labor Income per Dollar's Worth of Labor
$ 347	$ 288	$0.83
426	332	.78
557	432	.78
730	534	.73
960	721	.75
1307	1194	.91
Average		$0.80

can be had in the wage-earning relation. This is one of the reasons for the constantly increasing size of the average farm. Capital power enhances personal earning power — so far, indeed, as it is possible to separate the two.[1] Not merely in credit facilities, and in other working business alliances, and in contests of endurance, but still more in the control of official and legislative favors, in inside information, in the ability to carry great risks and to handle enormous contracts, to underwrite great stock and bond issues, to exclude competitors from equal privileges, to crush them in stock exchange raids — do great fortunes grow by what they feed upon. If, in truth, the Socialist shall ever find out what business capital really means and how it actually works, he will learn something about distribution greatly to the advantage of his propaganda: and therewith he will come to have less to say in explaining the ill plight of labor through the separation of it from its tools. Precisely with the socialistic analysis as with the classical analysis, the capital concept errs by its overtechnological emphasis. Wages are received in the business process. Business capital is not social capital.

From this chapter or from those that have preceded, it should now be clear that the total income of society consists of all the different gratifications or benefits at human disposal, which are held or sold at a price; that not only does all of this aggregate accrue in terms of price, but also that it is distributed under the price mechanism, in the form of

[1] And it is here to be noted that for some purposes it is necessary for the entrepreneur to make this separation as best he can. He must compute his costs, and in computing these he may find it necessary to determine how much, in outlay or in displaced earning power, a particular factor must be computed to cost him in its present employment. It may, and probably does, earn him more than it costs; precisely how much more he is, in the nature of the case, unable to determine accurately. For distributive purposes, that is to say, all imputations of return are not merely inaccurate and unnecessary for the purpose, but are impossible. Whether Mr. Pierpont Morgan as an individual earns extraordinarily high profits, or his capital earns exceptionally high interest, neither Mr. Morgan himself nor any economist could determine. (See Chap. X.)

price shares — going, that is to say, to the different members of society accordingly as they are willing to pay a price to have, or to refuse a price to hold, the various forms of ultimate income; that therefore the distribution of the social income is to be explained through the distribution of private money incomes; that not only is the distribution of this aggregate so explained and controlled, but also in large part, the particular kind of income which is produced is so controlled — those members of society who have the ability to pay determining what things shall be produced and what shall not; that not only do the possessors of the great incomes determine by their own purchasing and consuming the direction which the production ministering to their demands shall take, but also, by setting standards for the less prosperous classes, determine in large part what the remaining production and consumption shall be; that many individual incomes accrue through contribution to the aggregate social product to be distributed — accrue, that is to say, as distributive shares in the cost distribution — the primary distributive process; that many others accrue by gift, by inheritance, by sinecure, by interest on public securities, by patents, by franchises, by ownership of natural bounty, by monopoly, by adulteration, by fraud, by ruse, and by theft; that not even all the shares in the primary distribution are received through producing something of social service, but only by producing something that some one will pay for — often, also, by preventing some part of that production; that salaries may as easily be earned by defeating justice as by furthering it, by protecting brothels as by closing them, by divulging an employer's secrets as by keeping them; that therefore this price distribution of the aggregate price income of society has in it no warrant that the shares received out of it are the correlatives of worthy contribution to it, or of any other contribution to it, or even that they are not derivative from interferences with it or from previous subtractions from it.

The next chapter, the final one of the book, will again emphasize the truth that all gainful activities are productive in the sole sense of the term appropriate to the competitive economic order, and that all objective bases of continuing income to the individual possessor are capital, no matter what may be their social significance. The chapter will

also trace the course of development in economic doctrine by which the contrary view gained general acceptance, and still retains it. Having pointed out the unparalleled resources of the American continent and their rapid exploitation by the most vigorous industrial people of this or of any other time, and having thereby emphasized and established the extraordinarily high per capita product of American industry, the chapter will sketch the relations between economic capital and modern social welfare, and will indicate the relations of the great fortunes of the rich to the poverty of the poor. Out of this analysis the conclusion should be inevitable that not the mal-expenditure of incomes, but the mal-receipt of them, is the fact fundamental to present practical evils; that therefore the primary problem in American affairs is the distributive problem — a problem having its basis in a great institutional situation of property in natural bounty, in privilege, and in exploitation.

CHAPTER XXVIII

THE DISTRIBUTIVE ANALYSIS IN THE LARGE

Purpose of this final chapter. — In a discussion having to do with so many different problems and with so many different aspects of each one of these, the essential unity of the exposition is likely to be obscured. Somewhere and somehow, therefore, the scattered threads and shreds of the converging argument must be assembled in order to present their essential unity. The problem, then, and the excuse for the present chapter, is to get things together, to summarize the salient points in the argument, to make definite the point of view, and to emphasize the doctrinal unity of the various separate discussions. In the very nature of the case there must go with this, not only the risk, but the certainty, of repetition in essential thought. Occasionally, indeed, in the interests of emphasis or of clarity, the writer has allowed himself the privilege of substantial repetition, and not rarely, also, the discourtesy of literal duplication.

Historical doctrines. — Repetition need not, however, burden the first steps of the immediate task. We shall begin with the attempt to trace the derivation of certain central doctrines which furnish the dominant issues of later theoretical controversy — doctrines, also, which in the opinion of the present writer converge to the making of one stupendous error — or perhaps better, one great group or congeries of errors — doctrines which it is the main purpose of the present volume to attack and to refute, and thereafter, if possible, to replace with something less wide of the truth. In any case, an adequate understanding of current issues will be appreciably forwarded by an examination of the derivation of the particular doctrines under consideration.

There are several of these: (1) the doctrine of unpro-

ductive labor, (2) the Guidance of the Unseen Hand, (3) Natural Law; and as the synthesis or conclusion from all these, (4) Laissez Faire. First of this triad of subordinate and concurring doctrines — first in importance if not in time — is the doctrine of unproductive labor (and of unproductive consumption) — a doctrine the parent form of which long since passed away, but which is still very present with us in its progeny. The importance of these must serve as the excuse for a somewhat extended discussion.

Unproductive labor. — Barring the socialists, who still upon occasion exploit this view with propagandist fervor, it may be said that there is to-day no one to deny the productivity of the preacher or singer or actor or teacher or man servant or maid servant. If the artisan who constructs a violin is productive, so, also, is the artist who plays it. If to grow wheat or to grind it is economic production, so is baking it. If we may regard as productive the industry which furnishes the beef, so may we also the industry that cooks it. If a stock car is productive in transporting beeves over wide intervals of space, so likewise must be the waiter who brings the steak from the kitchen or passes it at the table. And precisely as we pay for the transportation of commodities, we pay to have ourselves transported. If a freight car is capital, so is a Pullman. One colorist with his brush fixes his fancies upon canvas; another color worker by the magic of his words paints pictures on the tablets of the mind; the fact that we pay for either shows either to be value rendering. To create matter is in truth given to none of us; we only arrange and combine and distribute. (Nor, indeed, is the very existence of matter better than a hypothesis.)

All this is clear enough in these latter days, though not yet fully accepted in all its implications. But at an earlier time the case had a different seeming. Nor even now are we entirely quit of our confusions; ever and anon the older doctrine echoes faintly into our time.

Shifting center of interest: Cameralistic doctrine. — Economics is always pragmatic in spirit; the problems of the time dictate its emphasis, its methods, and its standards of

appraisal. The beginnings of economic science were, therefore, dynastic in interest. The economist of that time was the Cameralist, a specialist and an expert in stewardship. His problems regarded only the prince's welfare in the administration of his estate. The various flocks upon the plains — two-legged as well as four-legged — were to be husbanded and, in the times and manners proper to them respectively, to be shorn, the ends proposed being simply the maximum possible revenue and the highest level of dynastic prosperity.

Mercantilism. — But with passing time, the center of interest shifted. National problems were taking the place of dynastic problems. With this change of interest there took place in some measure a recasting and a reformulation of economic doctrine. Attention turned from imperial wars and bickerings, and from kings and their trumpetings, to questions of the growth of peoples and to the extension of their power in territory, in wealth, and in influence. The point of view remained, however, consistently national as distinguished from individualistic and personal, and competitively national as distinguished from social or cosmopolitan. It was the era of the Mercantilist, the specialist in the art of national merchandising, of finding markets abroad, of selling things to the outsider for money, of excluding the outsider from the home market, of compelling him, if he did sell, to take home with him goods instead of money — all to the end of getting his money from him and of keeping it — a policy summing up in the emphasis upon a favorable balance of trade. How, indeed, shall any people grow in economic power as against its neighboring enemies? By piling up wealth, by goodly accumulations of munitions and moneys and credits against the time of conflict. And how shall any man or nation become wealthy, except by selling more than buying, by keeping consumption under production? And how so well extend your personal economic dominion over your neighbor and over your neighbor's possessions — his desirable daughter included — as by getting him into debt to you? Or how so well render yourself strong, and at the same time your competitor nation weak, as by getting it into debt to you, or, better yet, by getting its pur-

chasing power into your own control, through cornering its medium of exchange? And how accomplish all or any of these things unless by selling your victim neighbor or nation more than you buy back? Thus conceived, with the nationalistic emphasis, the whole question became not primarily one of income, or of aggregate satisfactions and of total consumption, but of accumulation, and especially of growth in wealth under the form of foreign credits or other ready international purchasing power.

Physiocracy. — Proceeding from substantially the same point of view, the physiocratic school seemed to itself to have discovered a method better yet, — accumulation truly, but accumulation rather of population than of wealth. Artisans consumed as much wealth as they produced; the social cost of their product was as great as their product. Manufactures were regarded as, in Dr. Franklin's phrase, "subsistence metamorphosed." Agricultural laborers also consumed all that they produced or, at all events, all that they received as wages, and seemingly must always command so small a wage as to make this a permanent fact. Whatever the product of labor and land together might be, the excess in produce over the laborer's wage and necessary subsistence must go to the landowner as the equivalent and expression of the productiveness of the land. So with agricultural, also, as with artisan labor, the social cost canceled the social product; only the land was productive of *net product*. But even so, there was this difference between artisan labor and agricultural labor, that artisan labor did not increase the total population maintainable in the country, gave forth no subsistence product, no life material, while the product of agriculture may be regarded as population, expressed in the form of its raw material. And it seemed clear that national supremacy was rather a question of population than of accrued wealth.

It followed also that, inasmuch as the laborer received only enough to live upon anyway, there was small use, and some harm, in trying to tax him. The only man who, having a product net, a surplus, could pay was the landlord, the rent gatherer. If the laborers were taxed, it must be at the

expense of their number. It followed from this, then, that the program fundamental to national greatness was to foster agriculture as a life maintainer, the sole source of increasing population, and to tax the land.

The modern views. — Adam Smith, coming into the national point of view as an inheritance from earlier thought, set himself deliberately to the investigation of the causes, and to the formulation of the rules, making for the increase of the opulence of nations, and found that while manufactures were productive, they were not so *in the same sense as agriculture*, while labor as mere service was not productive at all. The shadow of physiocratic reasoning was still over Adam Smith.

Not having arrived fully and consistently at the individual point of view in economic analysis, John Stuart Mill followed substantially in the footsteps of Adam Smith. Unproductive consumption is consumption that does not furnish maintenance for productive labor. Productive labor is, in turn, that labor which affords an addition to the aggregate accumulated wealth possessions of society. Thereby he arrived at the distinction between material and immaterial. But this distinction between material and immaterial rested not at all upon considerations of utility, of importance for consumption in the aspect of service to human needs, nor finally and fundamentally upon some test of concrete reality, or of tangibility, or of materiality in any philosophical sense, but solely upon the aspect of permanency. For in a general way, that which is material and tangible is enduring; at any rate, that which is not material, which has no substantiality, is mostly evanescent; in coming to be it ceases to be. Thus only material things can add to national wealth. And that some forms of material wealth are themselves very temporary in their existence, *e.g.*, most cooked foods, leaves the line between the material and the immaterial none the less an actual line and, at the same time, a line which coincides practically with the line between the things that add to national accumulated riches and the things that do not add.

All of which was excellent for its purpose, and need have occasioned no perplexity or controversy, if only Mill had not fallen into the error of following his predecessors in their bad choice of terms; for the line which he was really seeking was not that between the productive and the nonproductive, or between the material and the immaterial, or between the tangible and the intangible, but merely the line between the accumulatable and the nonaccumulatable. Interpreting his terms *productive* and *nonproductive* in this sense, no difficulty is presented, excepting, perhaps, with regard to the significance of the distinction, as seen from the point of view of a more modern analysis and of its theoretical needs. But, either by strict logic or by analogy, other things followed. If material facts only were wealth and material wealth alone were economic product, then only material goods were capital. The economic process was conceived as strictly an industrial and a technical process. The factors of production were material factors making for tangible, material, concrete results amenable to measurement by weight and tale. Thus the different factors of production fell into classes determined by their technical relations to a strictly mechanical process conceived on large and general lines. The mechanical, concrete, industrial equipment at the disposal of human energy — also mechanically regarded — was divided into two clearly defined and comprehensive classes corresponding to the large and general (and essentially vague) distinction between agricultural and nonagricultural production, or — more accurately — to the distinction between the extractive and the nonextractive industries. Hence, in part, the distinction between land and capital.

Capital *versus* land: Rent cost *versus* other cost. — From the social point of view, also, *though somewhat violating the technological test*, the distinction between land and capital was reënforced by obvious differences of origin — the genetic point of view. Some part of the material productive equipment comes by natural bounty, a gift of providence, a racial heritage rather than a racial achievement. The produced facts — products of labor set aside for further use in production — fitted passably well into the capital category already constructed upon technological distinctions.

Analogies from English law. — Perhaps the most important corroboration for the distinction between land and capital, and possibly the origin of the distinction, is to be sought in the jural background of English thought. The civil law of England and, in a large degree, the economic, political, and social organizations trace back to feudalism, a system in which land ownership was the controlling and directing fact for almost all purposes, political and economic, theoretical and practical. The line of cleavage between real property and personal property runs deep through all English jurisprudence.

It would, then, be a most interesting investigation, if only one had the necessary learning, to trace out the manner and degree of connection between the legal distinction of realty from personalty and the economic distinction of land from capital. That the parallelism is more than merely fortuitous may be taken as beyond doubt.

The derivative theories. — If the foregoing considerations are to the point, adequate explanation is presented for the classical habit of confining the field of economics to a study of the production, distribution, and consumption of wealth, wealth being taken to mean tangible material goods; for the restriction of production to the bringing about of material results; for the construction of categories of material factors based upon material items of equipment; and for the distribution of this store of equipment into material nonland equipment on the one hand as over against land equipment on the other hand.

That we, the economists of these latter days, have inherited richly and gratefully from our forebears is equally to our credit and to our good fortune. Nevertheless the best of the story is yet to tell. We have still to analyze the spiritual setting of these doctrines — their soul and heart and aspiration — before we can either estimate all that they meant to their exponents or all that they have signified to us as legatees. Only so can we measure the degree of the unfealty of a few of us to the faiths of the fathers.

We need, that is to say, to note how far a genial optimism

due to a reverent faith and a reverent faith derived from a genial optimism converge to reënforce and to extend and to interpret the more strictly intellectual aspects of the classical doctrine. We need to know the inspiration and the spiritual furnishing of the classical view. Filially and uncritically, therefore — as becomes the heirs of an estate — a few words must be said of the Guiding of the Unseen Hand, of Natural Law, and, finally, of Laissez Faire.

Providence guides. — There are other bases of optimism, doubtless, but the readiest is religious faith. Seen in the large and in ultimate bearings, things must be going well with the world; else what can God be about? It is given to none of us to thwart the will of the Creator of all of us. Whatever we do, we must perforce be working out the great program, treading the wine from His presses, milling out the foreordained grist. It cannot be but that we are playing the part for which we have been assigned to the ends of the eternal process. However great then may be our ill of purpose, there can be no ill in the results. Whether or not there be, somewhere or ever, any other good than the good will, it is certain that there can be nothing ill but the ill will. Whatever wrong we may purpose, and however great the guilt of our intent, and however grievous the merited punishment, there can never anywhere be any guilt of accomplishment. This is a world where even all ill is good, since this is a world ruled by infinite goodness: "God's in his heaven."

This much granted, — and it is not much to grant for the truly religious man or for the truly religious age, — it forthwith becomes incredible that the best interests of any of us can antagonize the interests of the others, if only it be possible to the individual to appreciate things in their ultimate meanings and their long effects. Somehow each of us meets the faith in him that, could he see things farsightedly and clearly, self-love and fellow love would find themselves reconciled in the moral code as it daily enacts itself in the human conscience. The right of our neighbor can hardly be wrong to us. The claims of sympathy and the demands of duty not only express our obligations to our fellow beings,

but sum up in the highest and truest sense our own well being. Somehow the right thing must be the best thing for each of us. It cannot do our neighbor wrong; it must be best for him as well as for us. It follows, then—as, for example, Bastiat argued—that all exchange is a mutual transfer of services. All trade is good; good from the point of view of the traders immediately concerned, and good for all the rest. International trade especially must be good for both nations. Hence a further corroboration of the brave and noble faith that all individual interests, rightly seen, must harmonize; any clash must be the merest seeming, or somehow real interests have been misconceived. And even when these misconceivings are most common and most extreme, the Unseen Hand will always — or almost always, or commonly, or at all events sometimes — marvelously and providentially set things right. It was odd, no doubt, in a world like that of Adam Smith's construction, that there should turn out to be any such thing as unproductive labor; and particularly was it odd that traders and middlemen should so multiply, being mostly parasitic. But at any rate both valets and traders could be trusted to become gradually fewer — a laggardly and leisurely fulfillment of the divine will, but none the less a fulfillment. In general, surely, private gain must accord with public welfare. Consumption must take place by right of a preceding production. Private gain must trace back to social contribution. Capital must be such by furtherance of social product. Private income connotes a socially earned income. Distribution is solely and exclusively a division of a joint product among the coöperating productive factors. So runs the Great Plan.

Natural laws control. — Tenuous and unsubstantial rather than solidly theoretical, and impersonal and illusive, but none the less real and objective and effective, is this same doctrine as it presents itself under the guise and sanction of Natural Law. The Natural Law philosophy was the skeptics' way of saying substantially the same thing; it was the old faith unitarianized. Being, moreover, less naïve, it was less intelligible, and thereby less open to attack.

And it had the usual merit of vagueness that it might mean pretty much anything — little or much or nothing. Better than this, also, it was rational, and struck hands across the ages with Greek philosophy and with Roman jurisprudence. It sounded not a little like the Law of Nations and breathed the air of Platonic idealism. But, best of all, it recognized and proclaimed a great stream of righteous tendency and great reservoirs of compelling force making for the good. God or no God, there was — and still is — a world of law wherein truth is immortal. Thus the right is destined to ultimate triumph ; and progress reigns ; and things essentially improve by their own inevitable unfolding ; and the soul of things is just. Evolution is thereby the last word of scientific faith, and the ameliorative trend a popular certitude.

If, indeed, all this be not easy to state, it is easy enough to feel and to know, as most economists and all good citizens do now know it and feel it. All things are coming out all right ; the situation will work itself clear ; the world is getting better ; time will solve the perplexities and administer the remedies ; things will cure themselves ; destiny guides us ; the long laws are with us ; something will be found to replace the wasted coal ; the hills will reforest themselves somehow. If God is not benevolent, trends and forces and tendencies are. Let nobody "knock." This is the day of the optimist. Whoever doubts declares his own incapacity for sane thinking.

Laissez faire political science — It must, however, be admitted that the *Laissez Faire* school of thinking was something more, and possibly something better, than a mere spontaneous religious faith or a naïve natural-law metaphysics. Some measure of inductive support was commendably offered this *a-priori* faith, and therewith a plausible case was established. The economists of the first half of the nineteenth century were engaged in the study of societies emerging from centuries of kingship, of government by classes, of stupid and unjust legislation. It was clear enough that the progress of society lay in the breaking down of legal

barriers and limitations, in the sweeping away of the privileges of caste and class, and in the development of popular institutions under the form of local and individual initiative. The time was one of growth and advance. A wealth of achievement justified the advocates of industrial liberty as theorists and honored them as prophets. The era was a series of object lessons in the blessings of untrammeled individual activities and in the dangers of overlegislation and paternalism. The benefits of increased freedom argued for the wider abolition of regulation, and the régime of liberty came to stand as the ideal toward which civilization seemed to tend. For most cases, it was manifest that what individuals and peoples chiefly need is to be let alone; that that part of human ill is small which kings and parliaments can cure. In the full flood of hope, economists argued learnedly that the good of each is always and inevitably bound up with the good of all; that in the marvelous divine order of things, selfishness of motive works out in altruism of results; that social ill-adjustments are due to too little liberty, too much meddling, or to ill-informed estimates by the individual of his own interests. Nothing remained but to enlighten the people in their freedom. The future could not lie with restraint, but with liberty informed with knowledge.

Derivative modern doctrines. — This brief genealogical record concerns the present inquiry merely as indicating the presuppositions, and as sketching the background of thought, explanatory of certain important positions in current economic theory. These are: In ultimate essence competition is voluntary coöperation. Capital is wealth stored up for purposes of future production and consists solely of concrete instrumental equipment. The test by which a thing is capital is the test of technological serviceability as a factor for concrete production in the industrial process. The interests of labor demand the multiplication of capital. All incomes are derived from participation in the productive process. These incomes, as distributive shares out of a jointly produced product of value, are received by title of social service performed. Distribution is part and parcel of the

productive process, takes place within it, and is justified by it. The point of view from which the economic life is to be studied and by which it is to be interpreted is the social point of view. Each and every gainful occupation approves itself as socially productive, else it could not normally be privately gainful.

And now it will be worth while to subject these doctrines to the test of the pitiless facts. But, at the threshold of this unwelcome task, a caution is called for. If it should have occurred to the thoughtful reader that the foregoing equipment of concepts and categories and doctrines is especially reminiscent of the current productivity school of distributive theory, this suggestion must be promptly dismissed. Reminiscent of the productivity school it may in some sense be, but not rightly or especially or peculiarly so; for all these are the concepts and categories and doctrines of current economics in general. They are the common property of the classical and of the modern. This equipment of terms and theories and presuppositions is the common possession of economic thought in the large — not of this school or the other, not of ancient or of modern, not of cost doctrinaires or of utility doctrinaires, but of the genus economist in general.

Criticism and denial. — But to the test of the facts: the truth is that the essential nature of capital is not to be found in its significance as a category of machines and tools and appliances. True, these things are capital, but so also is ice in the ice house waiting for summer, cider in the cask aging to vinegar, wine in the vault acquiring bouquet and flavor. Not even for the wine or for the cider is James Mill's explanation — that *these also work* — a competent account of their capital character. The merchant's stock of goods is capital, but not as a factor of production in any industrial or technological process; and, if some one should suggest that these are merely private, not social capital, the answer must be: precisely so, — capital.

Nor is the test in the materiality of the product. Freight wagons or freight cars are surely somehow to be included within the capital category; then so, also, are passenger

cars and taxicabs — despite the fact that they are rendering merely the service of transporting men. But then equally so are excursion boats or pleasure boats kept for hire. And not the less so are the houses that shelter men — whether tenants or owners — and the land which upholds the houses.

Nor is the line of distinction to be sought by reference to the wholesomeness or to the social service of the product. Economic productivity is not a matter of piety or merit or deserving, but only of commanding a price. Not a few of us, like a late friend of the writer, glance back over our lives to wonder why everything that we ever really liked "was either extravagant or immoral or indigestible." Actors, teachers, preachers, lawyers, prostitutes, all do things that men are content to pay for. So wages may be earned by inditing libels against a rival candidate, or by setting fire to a competitor's refinery, or by sinking spices.

But if with consumption goods neither ethical nor social standards are theoretically decisive, or even relevant, for the question of value and marketability and economic productivity, so likewise are these tests equally inappropriate for the capital question. If whisky is wealth, distilleries are capital items. If Peruna is wealth, the kettle in which it is brewed must be accepted as capital. Then so is the house rented as a dive — the equipment of the gambler and the saloon keeper, the building and fittings of the indecent stage.

And now note, for the larger and more general purposes of the argument, that if all these, as gain rendering to their owners, are capital, so also must the inmates of the dive be recognized as producers after their kind — along with the poor actor, the vaudeville performer, and the chorus or ballet girl. The test of social welfare or of artistic merit is invalid to stamp as unproductive any form of wealth or any kind of labor. Ask only whether it sells or pays. If jimmies are capital, being productive for their purpose, so also is burglary productive; if sand bags, so highway robbery. The principle decisive for gambler's quarters and for gambling appliances holds for gambling. If the fees which the lawyer receives for pleading and winning an unjust cause are earned, so also are the daily receipts of the beggar upon the corner.

Lobbyists, panders, and abortionists are producers: that they are paid is the adequate proof. This is surely not to deny the fact of parasitism in society. But parasitism is not a competitive category, however far it may be a competitive phenomenon; it is a concept irrelevant to competitive analyses and competitive doctrine. It has its place only when the facts are to be appraised in their social significance. It belongs to the *art* of economics rather than to the *science*. It has no bearing to determine what is or is not capital.

A new point of view. — It is, indeed, superlatively important, here and everywhere, to recognize that a complete acceptance of this private and acquisitive point of view is the only procedure possible, in the analysis and classification of the phenomena of a society organized upon lines of individual activity for private gain. This is abundantly proved as soon as appeal is made to the facts and the processes of the actual business world. In the computation of competitive entrepreneur costs, the capital investment and the interest charge are reckoned upon a basis quite other than that of technological capital. Entrepreneur capital — capital in the guise in which the type form of modern business, the corporation, presents it — includes not merely consumption goods in stock, but banking balances, countermoney, funds tied up in customers' accounts and in bills receivable of many varieties, corporate stock and securities, whether held for sale or for investment, and generally all that fund of working capital, more or less unspecialized, requisite to the successful functioning of a business. The manufacturing entrepreneur or the corporation manager would find it a novel and perplexing doctrine which should restrict the capital investment to the buildings, machinery, and raw materials of the undertaking. The corporation really possesses nothing that is not capital. All things, then, that can be traded in, or valued, or rented, or capitalized may fall within the meaning of the capital concept. In this sense of the term capital includes, *in the price aspect*, patents, copyrights, trade-marks, business connections, reputation, good will, privilege, government favor, franchises,

royalties, rights of toll and tribute, rents, annuities, mortgage rights, personal claims. And, further, it includes monopolies of no matter how various kinds and degrees, so far as they may become the subject of invested cost in obtaining them, so far as they are bought and sold as steps in competitive-productive investment, or are vendible upon the market as capitalized dividend-paying properties. All of these are capital for our present purposes, since they get into costs in the actual competitive market production of such commodities — hats, wheat, machinery, stocks, etc. — as are actually marketed. All things which, from the entrepreneur point of view, appear as expedient expenditure for the purposes of creating either a commodity or a situation of market value are outlays of capital taking rank as costs of production. When the purchase of machinery is an advisable move in business policy, capital goes into it, as at another time into land or labor. When, in good business policy, a franchise must be had or a patent procured, capital is, in either case, so directed as to accomplish the necessary thing. When, for equally cogent business reasons, legislatures or city councils must be bought, the necessary outlays are, for cost and value purposes, precisely like expenditures for machinery or for the control of patented processes. Tramway franchises and sugar-refining tariffs, as situations business-wise obtained by the expenditure of capital, disclose in the current market values of the stock the present worth of the forecasted gains. So the expenses of stifling competition are capital outlays, invested as the costs of a monopoly to be obtained; so also the tribute paid to escape cutthroat competition is a capital cost of production.

Fact and description *versus* appreciation and appraisal. — All this should be easy of acceptance, but is in fact far from easy. Social appraisals are prone to disturb and to confuse all purely realistic descriptions and theoretical analyses of the facts of actual business. What should be, gets mixed with what actually is. The case is as if the physician, because he ought to be sympathetic, were required to mix his hopes into his diagnoses and to write his sympathies

into his prescriptions. One may condemn the poisoner's art, but this ought to argue that the chemist study poisons carefully rather than that he exclude them from his researches. Bacteriology would be of dubious service to human life if only beneficent bacteria were held worthy of attention. The zoölogist who could not see a snake would be a twin brother to the economist who can find capital only when there is social productivity, and who recognizes economic labor and economic wages only upon condition of social deserving. Economists will do well forthwith to recognize that rights of patent and royalty are capital; that rights of tribute through franchise privileges are capital; that police permits to rob passers-by after midnight are capital; that legislative authority to rob importers, both early and late, is capital; that royal patents for tax-farming the peasantry are capital; and that generally every property basis of private acquisition is by that very fact capital. Until Political Economy has achieved this much of wisdom, its doctrines can express nothing more than a pious and commendable aspiration; it will still be busy with picturing utopias or with analyzing hypotheses; on this basis it must continue to lack all touch with life, to make itself a sheer farce — albeit coming as near to tragedy as comedy often gets.

The present economic situation. — Time more than enough has already been spent in presenting and repeating these doctrinal axioms. The application of them to our actual American society may now properly occupy our attention:

A great part of the 120 billions of American wealth — as the statisticians report it — is made up of one form or another of capitalized privilege or of capitalized predation. If, indeed, our computations include all forms and manifestations of private claim and of private property in that to which no individual could originally have made good his private right of enjoyment, it is probably not going too far to assert that two thirds of the durable private bases of income in the United States are nothing else than this capitalization of privilege or of predation. The market value of these nonsocial or antisocial forms of private capital is

merely the present worth of the right to extract tribute from one's fellows or to plunder one's fellows. This fraction is placed at two thirds as admittedly an estimate. But, as an estimate, it is easily made credible:

Note the facts as reported by the 1904 census: Out of the 107 billions of material wealth, 18½ billions are reported as current products — clothing, personal ornaments, furniture, carriages. Of the remaining 89 billions, 2 billions are coin and bullion. Of the remaining 87 billions, 62 billions are land and improvements and 16 billions are accounted for as public utility corporations; 8 billions remain for live stock and industrial equipment. Our problem has, then, mostly to do with these 87 billions of social equipment — income-earning wealth in the ordinary sense. We find this total to divide into:

8 billions of non-transportation equipment
16 billions of public utility wealth
62 billions of land and improvements.

How much, then, of this 87 billions of wealth is the capitalized bounty of nature or the capitalized expectation of unearned dividends?

Recalling that mines and water powers are included within the land category, that the ground values in cities like New York and Chicago are twice the improvement values, that four fifths of the farm values are land values, that seven twelfths of the real estate values for a group of states not including New York, Massachusetts, Illinois, and Pennsylvania are ground values, that the last tax report for Illinois gives the town and city lots as assessed at twenty-four times the farm values — it is probably conservative to say that over two thirds of the real estate wealth of the country is in ground values. Here are 41 billions of unearned increment.

Estimating, also, the value of rights of way, of user and of terminals, for the railroads and tramways, express companies, telephone, electric light, and telegraph companies, it is probably not wide of the truth to say that one half of the 18 billion value of public service corporations represents merely social values. If there is overstatement here, it surely does not offset the liberality in the division of real estate values.

Here, then, are approximately 50 billions of unearned values out of a total of 87 billions. Five ninths of the durable wealth reported by the census is made up of privately appropriated social wealth.

The difficulty is, however, that the census returns have been constructed upon the basis of a viciously bad concept of capital. In the main, the totals represent a valuation of material tangible items of goods or of equipment. But as a question not of social wealth, but of the aggregate of private competitive wealth, the interrelations of human beings must be considered. If half the population of America became slaves, 50 billions of wealth might forthwith be added to the wealth aggregate. In the mere item of public debts we have approximately 3 billions to be computed as private wealth against which no debit can be charged in the aggregate appraisal. These debts are merely the present worth of the private rights of some men to collect future taxes out of other men. Patents and franchises and privileges are all fundamentally of this same sort. In a general way, the common stocks of the later corporations are nothing more or less than the present worth of putative future dividends resting upon no basis of original investment. The Steel Corporation with its billion dollars of market value rests upon original properties of from 200 to 300 millions. The average earnings of 100 millions would support a valuation of 2 billions if only it were certain that this robbery can have no end. The dividend-earning capacity of the Booth Company supports a capitalization double that of its material assets. Sears, Roebuck and Company incorporated approximately 9 millions of tangible assets into 9 millions of preferred stock and 30 millions of common stock: and this common stock is now selling at 200 — seventy millions of private wealth against 10 millions of social wealth. Immunity from competition through protective tariffs, through combination, through franchises, and through patented processes, explains a vast total of private wealth of which the census takes practically no account. Even the item of good will — a property claim not necessarily predatory in its basis — means commonly

nothing more than the special ability of some particular corporation, for example, Sears, Roebuck and Company, to avoid the wastes of our prevailing system of retail merchandising. One may conjecture — or guess — the aggregate private wealth of the country to be 150 billions of dollars, and may hazard the estimate that the 20 billions of real estate improvements, 10 billions of public utilities property, 20 billions of tangible personal property and of goods for consumption — a total of 50 billions — more than represent the earned wealth of the country as against a total private wealth three times as great. How much of what earned wealth there is is now in the hands of those who did not earn it is still another question.

The purpose here is not primarily to show how tragically inadequate is the single tax program interpreted as applying solely to unearned increments of land. So far at least as the single taxers go, they emphasize a real evil. Nor is it a valid objection to their proposed remedy that there are other iniquities even more seriously demanding attention. Nor is there time at present to point out how unworkable is the single tax program, so far as it intends an appropriation of unearned increment through the machinery of the ad-valorem tax. Nor is it possible here to do more than to call to mind the diminishing significance of these agricultural rents as over against the stupendously increasing importance of urban rents. (See Chap. XIII.) The land rent problem is not a problem of diminishing inportance, but of enormously increasing importance — all on the urban side. The assessed value of the ordinary real estate of Manhattan Island — two thirds of which has been shown to be ground value — exceeds by $900,000,000 the assessed value of all ordinary real estate in the United States, urban and rural, west of the Mississippi River, inclusive of Minnesota and Louisiana.[1]

Nor is the purpose — here or elsewhere — the inditing of any sort of socialistic screed, but simply to point out the

[1] Report of Com. of Taxes and Assessments of the City of New York in 1907.

significance of the unearned increment of land or of privilege in its bearing upon the present distribution of wealth and of poverty. Were society later to make as great a botch of socialism as it has thus far made of competition, socialism would present the nightmare of all the ages. The present quest is to get to the heart of the growing poverty of some part of our present population — to point out, for example, why the wage-earning classes of our cities are finding it increasingly difficult to get meat to eat, and why, with the more unskilled of these, the Italians, for example, it is no longer possible for the wife and the wage-earning girls and the children to have any meat at all. And about all that can at present be done for the problem is to get it stated and to get its terms into the proper theoretical relation to the notions of competitive gain and competitive income and to a really modern and workable concept of capital.

For we are to remember that, side by side with the want of the poor, our average standard of living is rising. We are to remember, also, that we are the richest nation of the world — not merely as measured by the colossal wealth of our very rich; not merely by the flamboyant expenditure and the crass ostentation of our great spenders; not merely, also, by the sheer commonplaceness of great personal incomes and great property incomes — but also by the test of an extraordinarily high per capita productivity of consumable wealth.

The truth is that no nation of the world out of all the past and no other nation of the present can rank with present America either in opportunities or in accomplishment in wealth production. The average per capita product depends in part upon the quality of the human being and in part upon the quality of his environment. As speed in running is partly a matter of the runner and partly of the track, so the productive output is explained partly by the quality of the farmer and partly by the quality of his farm.

All this is merely one application of the great law of correspondence, the interplay between organism and environment. There are only these two ultimate forces in economic his-

tory, man and nature. If the Chinese have less per capita to consume than the French, it is because the Chinese produce less per capita. And the explanation for this must be found in the lower skill or vigor or energy or intelligence or scientific attainments of the Chinese, or in the crowded or otherwise unfavorable character of the habitat. If Americans live better than Europeans, it must be that the Americans are better producers — more active, more inventive, more enterprising — or that the soil and climate and other natural resources of America offer more favorable opportunities. (See Chap. I.)

It is obvious that it is chiefly in intellectual power and intellectual acquirement that the modern man surpasses his progenitors in productive output. If we compare the modern industrial process with the methods of ancient times, we get some notion of the importance of science and art in production. Precisely here was the significance of the agricultural and industrial revolutions. Man has harnessed to his aid the forces of nature; has made levers out of the elemental energies. It is the chemist that grows most corn. Steam and electricity, the printing press, the cotton gin, these are our free inheritance — excepting, of course, when even the field of scientific knowledge has been surveyed off into private holdings of patent and royalty. Even the dissemination of knowledge now divides its maximum toll between the paper trust and the type foundry association.

The highest product of modern science is in the industrial technique at the disposal of the modern man as productive agent. As most completely master of this technique, most intelligent in its application, most industrious, most enterprising, and most aggressive in its utilization, the Anglo-Saxon has made himself the leader in the industrial society of the new industrial era.

Consider all that this means for the American branch of the Anglo-Saxon race. Other nations have tediously worked out the problems of progress handicapped by their own inefficiency, under the harsh pressure of the subsistence limit, in environments either niggardly in the beginning or crowded by ex-

panding population and exhausted by improvident use. Out of this long poverty there has finally emerged the modern civilization. And in these last days, equipped with all this racial heritage of technique, vigorous, energetic, and effective beyond all competing races, the Anglo-Saxon is now exploiting the almost inexhaustible wealth of the richest continent in the world — forests ready grown to his hand, limitless expanses of the most fertile land of the world cleared and ready for his plow, silver and gold in unexampled wealth, the main copper resources of the world, iron as dust to be shoveled from the surface of the earth, two thirds of the known coal resources of the world, and all, or nearly all, of the natural gas and of the petroleum. America actually produces three fourths of the maize of the world, more wheat than any other country, one third of the oats, two thirds of the cotton, one half of the iron, one fourth of the gold, three sevenths of the lead, two fifths of the coal (and, exclusive of the United Kingdom, more than all the rest of the world combined), three fifths of the copper, one third of the zinc, three eighths of the aluminum.

That the fertility of the soil is being seriously depleted, the forests nearing exhaustion, the gas already nearly gone, the coal in prospect of exhaustion in 150 years, and the artesian water beginning to fail, does not matter to the problem. Nor does it concern the present analysis that every great white way in every American city is nightly one more chemical orgy of waste, a crime of competitive advertising, for which some day hundreds of human beings must shiver for months. Our enormous production still goes on. It ought to represent itself in a generally high level of consumption among the wage earners. Instead of this, however, a goodly percentage of our laborers are close to the margin of starvation.

It is, indeed, an extraordinary outburst of productive achievement which we are witnessing — a combination of productive efficiency with favorable opportunity never paralleled in the past history of the race, and never to be duplicated again in all the years of the long future. No new con-

tinent is left to be opened. Modern science and virgin opportunity can never again concur.

But both the science and the opportunity are still with us; and the fabulously generous product derivative from these is still with us; and yet there is dire poverty for hordes of hard-working men. For this poverty of income with the poor there is only one possible line of explanation, the prodigal incomes of the rich. We are to recognize that, as there are incomes which are earned by contribution to the satisfaction of human desires, wise and unwise, there are other incomes which, though socially earned, are not earned by their recipients: and that there are still other incomes which are obtained through making the general income the smaller — so much the more as there is for the one individual, there is the less for all. As Professor Carver has put it, incomes are of three sorts, "earnings, findings, and stealings." The stranger is it that as theorist he has not carried over — but has rather denied — these same distinctions in their applications to the notions of capital and of income. For it is clear that in one respect the prostitute has the advantage of the receiver of ground rent, and still more of the monopolist, that she, at least, renders a *quid-pro-quo* for what she receives, while neither of the others does.

These different cases of property income, iniquitous in origin and productive of innumerable abominations, divide for present purposes into three classes:

1. Cases where rent is collected upon a really productive item of property; where, therefore, the only question is as to the right of receipt of the income: capitalized bounty of nature.

2. Cases like franchises, where social productivity is absent, but where rent to somebody is inevitable unless portions of the traffic are deliberately made unprofitable. No competitive extension of the traffic is practicable to cancel the rent: capitalized privilege.

3. Cases where profits express not merely the lack of social productivity, but an interference with social productivity through the restriction of product or the deterioration of

product. These are not cases of a bad distribution of a social product, but of incomes dependent directly upon the degree in which social productivity is prevented: capitalized predation.

The single taxer is thus fundamentally right in his declaration that public revenues should be derived so far as is possible from the social estates — from incomes not due to individual effort in the production of social service. Any system of taxation, no matter how scientific, is yet bad which has not first exhausted these sources of income before taxing any other.

But our present system is bad even without reference to this limitation. So far from taxing unjustifiable incomes equally with the justifiable, it places most of the burden upon the justifiable and exempts the unjustifiable. The difficulty is, then, not merely that 15 billion dollars' worth of agricultural land has become private property, on which the millions of disinherited must pay rent and by virtue of which they become "trespassers in the land of their birth"; not merely, also, that untold millions of dollars in urban sites are now the source of landlord income; not merely that the coal mines belong to the coal barons, the copper to the senators, and the gold and silver mines to the other rich, the water powers to the syndicates; not merely that all sorts of franchises have fallen into private ownership, appropriating gains that should be social, and at the same time imposing monopolistic restrictions of product and exactions of tribute, — but also that our tax system is directly adapted to aggravate all of these evils. In the main the revenues are collected upon the consumption of the incomes of those very classes that have been already grossly exploited in the distribution of those incomes. The poor are plundered as producers by monopolistic restrictions on production, and then are plundered again as consumers through consumption taxes upon that which has been produced. Wages that are inadequate at the best buy still less through the consumption taxes to which these wages are subjected. If, in truth, then, we either can not or will not disturb the vested rights already

accrued in land wealth, and if we will not appropriate or cancel the franchise rents, and if we will not or dare not burden, by progressive taxation of some sort, the exercise of exploitation and the collection of tribute — if, that is to say, we have turned over even the tax function to private ownership — we might at least experiment awhile with serious inheritance taxes. The pressing problem is to establish equality of opportunity — the elimination of handicaps. If society is to remain democratic politically, it must be democratic economically and socially.

The need of a new economics. — But it is no part of the main purpose of this volume to discuss the shortcomings of the competitive order in its present working, or to indicate the lines of necessary reform, or to attack or defend the competitive principle either in its present manifestations or in some probable better future. The purpose has been solely to outline the theoretical categories which the actual facts of current production and distribution require and impose. Every art must have its corresponding science, or both must suffer. It is, then, for some one to construct an economic science adapted not only to the requirements of the facts, but to the needs of their amelioration. To this end Economics must cease to be a system of apologetics, the creed of the reactionary, a defense of privilege, a social soothing sirup, a smug pronouncement of the righteousness of whatever is — with the still more disastrous corollary of the unrighteousness of whatever is not. The facts which are, and the facts which are to be, are equally in need of economic categories to fit them. If the program of social progress does not harmonize with the existing economic science, something is the matter with one or with both. It is in the conviction that the fault is with the Economics that this book has been written. Its aim has been to furnish to progressive social workers that ultimate basis in economic theory which is theirs by right of truth.

We economists must, then, come to recognize that we have not rightly analyzed the notion of capital and have wrongly interpreted the question-begging term *productive* in economic

affairs. We have assumed that private gain and social welfare are approximately interchangeable concepts. As we have failed to see that some profits and some wages are mere predation, so we have failed to recognize that some of the capital is as iniquitous and disastrous for social welfare as other of the capital is beneficent. Noting that some of it is good, we have inferred that all of it is good. By our bad analysis, in our blindness to the distinction between social productivity and private productivity, between that which ethically is production and that which ethically is predation, we have allowed ourselves to stand — and mostly we have stood — as defenders of all.

And blind to this same distinction we have, for example, advised, wherever we have finally become conscious that iniquity has become capitalized, that this sort of capital be subjected to no greater rates of burden than apply to righteous sorts of capital. To the extent that we favor the general property tax at all, we favor taxing all property at one rate. We shall, possibly, some day come to see that capital in a competitive society is merely a source of private gain, and that private possession may attach to everything that is permitted, legally or illegally, to render gain to the owner.

In that good, and possibly far-off day, we shall have ceased to believe and to teach that price expresses either the marginal pain of production or the marginal utility of consumption; or that price expresses the social pain cost or the social utility of goods, or both together—for example, that, since the dollars paid by the wearer of artificial flowers or of pearls are the same dollars received by the flower girl or by the pearl diver, these dollars must express an equality between hardship on the one side and joy on the other; that units of capital are units of stored-up outlay of labor pain, and that interest is therefore both indirect wages and indirect and proportionate reward for labor pain; that the reward for capital is further justified on the one side by the painful abstinence of the capitalist and on the other side by the social service which the capital renders; that capital is thus a homogeneous fund of serviceability to human welfare;

that distribution everywhere tends to conform to deserving — all competitive gain being righteous, and all incomes sufficiently certifying their merit by their receipt; that land rents have no part with other costs in fixing the prices that consumers must pay; and that since these lands harmlessly earn their rents, the rents from them may rightly go to private owners.

When, in short, we have changed our calling from the painting of utopias and the capitalizing of dreams, and have, as scientists, brought ourselves somehow into touch with fact, the prosperous may no longer deride us or the disinherited curse. There will need be no laughing then anywhere, and if there be cursing, it will have changed its source.[1]

[1] Writing in 1852, John Stuart Mill said that if choice were to be made between Socialism and the existing state of society — "if the institution of private property necessarily carried with it as a consequence that the produce of labor should be apportioned as we now see it" — then all the difficulties of Socialism "would be but as dust in the balance."

Private property, he added, was supposed to assure to individuals the fruits of their own labor and abstinence, and "the principle of private property has never yet had a fair trial in any country. The laws have never yet conformed to the principles on which justification of private property rests. They have heaped impediments on some to give advantage to others. They have purposely fostered inequalities. . . . If the tendency of legislation had been to favor the diffusion instead of the concentration of wealth — to encourage subdivision of the large masses instead of striving to keep them together — the principle of private property would have been found to have no necessary connection with the physical and social evils which almost all Socialist writers assume to be inseparable from it."

For the further discussion of the justice of the competitive system of distribution, reference may be had to G. Lowes Dickinson's *Justice and Liberty*. The following citations, however, concern the present discussion mostly for their masterly analysis of the forces going to determine gainfulness in terms of price:

"Whether a man must work, whether he is to be permitted to work, or whether he is to be dispensed from the necessity of working;

and, again, at what he is to work, whether at manual labour or at one of the professions, whether at a skilled or an unskilled employment, whether at an art, or a handicraft, or a mechanical routine; all this is governed by the amount of property owned by his parents or himself. And, again, the remuneration he is to receive for his labour is fixed by the same condition. Either he has access to well-paid or to ill-paid work; and the access, though it depends partly on natural capacity, depends still more, in practice, on opportunity.

" . . . The labour which is best remunerated and most coveted, that of the professions and of the higher posts in business, is far more accessible, if not exclusively accessible, to the sons of the rich and of the well-to-do than to others. It requires, to begin with, an elaborate and expensive education; and even if that be dispensed with, relationship and social connexion count for much. . . . Opportunity is the monopoly of the well-to-do. It follows that since the well-to-do are a small minority, the great mass of men are predestined to the less interesting, more laborious, and worse remunerated kinds of labour. . . . It is not the power to create or administer wealth, but the bare possession of it that confers position. And into possession of it men come by the most capricious and accidental ways, by inheritance, by gift, by lucky speculation, or what not.

" . . . Note what immense wealth is distributed without any reference to labour or desert. The existence of classes more or less hereditary, the permanent stratification of society into the rich and the poor, in a word, the plutocratic character of our community, is due to this feature of our system of distribution. The principle on which it is based . . . is not desert, in the sense that the recipient earns what he receives. . . . I should be inclined to say that a man's desert is greater in proportion as his labour, being useful, is also disagreeable and onerous; so that, of two men making contributions to wealth, that one would deserve and should receive more whose work was the hardest to perform. . . . If that view be taken, it is not desert that apportions the rewards of labour? On the contrary, the most onerous and painful and unhealthy work is the worst paid, and the most agreeable, healthy, and interesting the best. So that it is the very opposite of desert, in that sense of the term, that regulates the distribution of wages.

" . . . What, for instance, is a Barrister's contribution to wealth, and what is a dock-labourer's? Does a barrister add anything? Or does he only subtract? . . . His services are wanted, and valued, because men are dishonest, or because the law is doubtful and obscure. . . . He does not produce; at the best he diminishes the

friction of production; . . . at the worst, when he is engaged, as he often is, in exaggerating not in settling disputes, he is increasing instead of diminishing the friction, and destroying rather than creating wealth.

". . . Turning now to the dock-labourer, or to any class of manual workers, they at least are in a very direct, simple and positive sense producing wealth. . . . By what process is it decided that what they produce is worth sixpence an hour, while the barrister's intervention to diminish or perhaps to increase the friction of the industrial machine is worth £10,000 a year?

". . . The fact, at any moment, is that scarcity determines reward. The more people there are competing for a piece of work, the less they get, and *vice versa*. And society is so arranged that there are always far more people competing for the more disagreeable and onerous tasks, than for the more interesting and attractive.

". . . As things are now, all the occupations that are most interesting, stimulating and delightful, that employ the highest faculties, and are the most worth doing for their own sake, are, broadly speaking, the best paid, while those that are sordid, dreary, mechanical, dehumanising, hardly receive a living wage. . . .

". . . The one motive of the exploiter being to make money for himself and incidentally for his shareholders, he and they will always be ready to make it at all cost to society. It will not matter to them whether what they produce is a good thing or a bad thing, so long as it is one for which, by fair means or foul, they can create a demand. They are as likely to devote their energies to poisoning the community as to feeding it, if the community, as is unfortunately apt to be the case, responds to the invitation to be poisoned.

"The capitalist . . . plays on the instrument the tune he prefers, and his tune is apt to be very low and vulgar. Nay, when he comes to deal with uncivilised peoples, what he plays is a dance of death; for he does quite deliberately, and with a clear conscience, exterminate them by cheap gin unless the public authority intervenes. . . . It is no part of the capitalist's aim to husband the resources of any community. If he can pay big dividends, say for fifty years, that is all he need trouble about. The future of a country or a society is nothing to him, for he will not be there to make money out of it. So that, for instance, he will always be in a feverish haste to exploit natural wealth at all and every cost to the community. He will cut down its forests, exhaust its mines, spoil its climate, and ruin its population body and soul — as was done in this country and in all countries during the industrial revo-

lution until the State stepped in to stop it, and as is being done before our eyes at this moment in the Congo Free State, not to speak of cases nearer home. All this he will do without ruth, without shame, without reflexion even, if, in his short-sighted book-keeping, it seems to pay him to do it. . . . The system of providing in this particular way the stimulus to and the direction of production does lead to these consequences, and they must be set off against its undoubted efficacy as a developer of energy and intelligence.

". . . Our method of flinging upon the resources and the populations of the world the unconscionable greed of capital, is open to these very grave objections. I might add others, and especially those which are recognized as the 'wastes of competition,' advertisement, overproduction, adulteration, commissions and all the rest of it. But I have said enough to remind you that the price paid for our method of stimulating production is a pretty heavy one" (pp. 55–132 *passim*).

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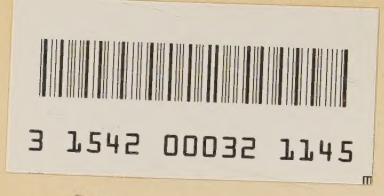
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